

EUROPEAN NEWS

US officials to question Bonn on Airbus funding

By David Marsh in Bonn

THE US will today ask the Bonn government to explain how funding of the European Airbus project will be affected by a proposal to restructure the West German aerospace industry under the control of Daimler-Benz, the engineering conglomerate.

Mr Alan Holmer and Mr Bruce Wilson, senior officials from the office of the US Trade Representative, will call on the Bonn Economics Ministry as part of a series of talks in European capitals to try to iron out differences between the US and Europe on Airbus subsidies.

The officials, who will see Mr Dieter von Wuerzen, state secretary at the Economics Ministry, have already been to Paris and will travel on later this week for talks with the EC Commission in Brussels and the British government in London.

The US is focusing its complaints on allegedly unfair European subsidies for the new Airbus A330 and A340 airliners. Washington is particularly

anxious to find out from Bonn whether the Government's plans for Daimler-Benz to take management control of Messerschmitt-Boelkow-Blohm, the main West German aerospace group, will end up increasing further public Airbus aid.

MBB is the West German partner in the four-nation Airbus Industrie consortium. Although the plan is still a long way from being formally agreed, Bonn is offering Daimler-Benz extra public money and exchange rate guarantees connected with the loss-making Airbus project to encourage the company to take a 30 per cent stake in MBB.

Until now Daimler has made any agreement over MBB conditional on a government accord to take responsibility for Airbus risks over the next decade. This condition, it met, could entail a fresh injection of billions of D-Marks of public funds into the Airbus venture, countering head-on the US policy of phasing out development subsidies for new airliner types.

Swiss rule out early application to join EC

SWITZERLAND said yesterday it would not try to join the European Community now because the political price would be too high but it left open the possibility of future membership, Reuter reports from Bern.

"We are not ready... at present to pay the political price that joining the Community would bring," Mr Rene Fohrer, Foreign Minister, said.

He and Mr Jean-Pascal Delamuraz, Economics Minister, were presenting a report containing the government's most detailed analysis yet of how the 12-nation EC's plan to turn itself into a single market by 1992 could affect Switzerland.

The report said Switzerland's neutrality and unique system of direct democracy, in which voters decided virtually any issue in a referendum, were incompatible with membership.

A federal system devolving much power to the 26 cantons and limiting the authority of the federal government in Bern was also an obstacle.

But the report left open the possibility of future Swiss membership if the EC developed federal political structures and Swiss public opinion turned in favour of joining the Community.

French fail to build their political bridge

Ian Davidson on the gulf remaining between the centre and the left

IN MAY, President Francois Mitterrand swept back to power with an undertaking to build a more united France with a broader basis of government, open to the centre.

But if the voters were enthusiastic at the idea of a less combative approach to politics, the immediate effect on the political parties has been perverse.

Discord has been sown in all parts of the political spectrum, and the chances of a bridge being built between the ruling Socialists and the centre look if anything more dubious than they did at the time of Mr Mitterrand's victory.

Within the Gaullist RPR camp, discord was inevitable after its electoral setback.

Mr Jacques Chirac, the RPR leader, has started cautiously to re-emerge in public, but recriminations over where the party goes next are only now beginning to come out into the open.

Mr Philippe Seguin, an ex-minister and a would-be reformer of the party, has implicitly blamed Mr Chirac for the electoral defeat: he has said that the party "had other things to do than organise presidential candidacies for Jacques Chirac".

But Mr Chirac shows no sign of giving up, or of choosing between traditionalists and reformers; for some time,



Chirac: the RPR is still taken up with recriminations

therefore, the party is likely to be the scene of inconclusive bickering.

Bickering is in full swing over the Government's planned referendum on the future of New Caledonia. The Gaullist old guard is deeply reluctant to give public support to a policy which, by holding out the possibility of eventual independence for the territory, marks a reversal of Mr Chirac's line; but liberal Gaullists would find it hard to condemn a plan which has brought provisional peace to the warring New Caledonian communities.

In principle, the parliamentary party is due to settle its position on New Caledonia tomorrow evening. But internal argument appears as fierce as ever. On Monday Mr Alain Juppe, the general secretary, indicated that the party might fall to reach a decision.

The Gaullist party has taken one important decision: to rule out any alliance, national or local, with Mr Jean-Marie Le Pen and his extreme right-wing National Front party. Mr Le Pen has described the decision as "suicidal", and clearly believes (or at least hopes) that

it will break down under local pressures.

But if it sticks, it will strengthen the chances of renewed alliances between the Gaullists and the other traditional conservative parties of the centre-right.

Mr Raymond Barre, ex-Prime Minister and also-ran in the presidential election, has done his best to enforce the isolation of Mr Le Pen by tabling a draft law which would forbid the merging of party lists between the two rounds of next spring's municipal elections.

This would not prevent alliances between the Gaullists and the National Front but it would ensure that they were publicly decided before the first round of voting.

The Barre proposal may well have forced the Gaullists' hand over Le Pen. But perversely, it may also reinforce links between the Socialists and the Communists and thus weaken the prospect of bridge-building between the Government and the centre.

Both parties reacted with immediate hostility to the Barre proposal; but the debate has served as a reminder that a large chunk of the Socialist party remains far more attached to some form of the traditional left-wing alliance with the Communist Party, than to the suspect attractions of an opening to the centre.

For the moment, relations between the Government and the centre resemble a curious quadrille, with much backing and advancing, but no clear prospect of a decisive encounter. Mr Barre has repeatedly indicated his general support for the broad orientations of Mr Mitterrand's policy, and he recently created a mild sensation by hinting at the possibility of taking part in an enlarged coalition government.

But Mr Barre is not a party leader and it is not clear whether he could deliver a disciplined body of parliamentarians.

Mr Pierre Mhaugnerie, who leads the Centrist party, to which Mr Barre is affiliated, shows deep ambivalence over a formal link with the Government.

He has written to Mr Michel Rocard, the Prime Minister, setting out his party's views on a number of policy issues, and seeking a formal negotiation; unlike Mr Barre, however, he has said that he does not support Mr Mitterrand's broad orientations, and places himself in the opposition.

President Mitterrand remains serenely aloof. His position, at least, is uncontested and uncontestable; it is only poor Mr Rocard who has to struggle to turn his undertaking of more open government into practical reality.

Thatcher to meet Walesa in Gdansk

By Charles Hodgson in London

MRS Margaret Thatcher, the British Prime Minister, will meet Mr Lech Walesa, leader of the banned Solidarity trade union, during an official visit to Poland next month.

The talks will take place in Gdansk during a three-day visit from October 16-18, the first by a British Prime Minister to Poland.

Mrs Thatcher will also meet Gen Wojciech Jaruzelski, the Polish leader, and Mr Zbigniew Messner, the Prime Minister, in Warsaw and lay a wreath at the Westerplatte war memorial which marks the spot where the first shots of World War II were fired.

Mr Thatcher's visit follows an invitation by Mr Marian Orzechowski, the former Polish Foreign Minister, during a UK visit last December.

Christopher Bobinski adds from Warsaw: The prospects for talks which the Polish authorities say they want to hold with Solidarity leaders, and other independent figures, on ways of surmounting the country's economic crisis have dimmed as attitudes on both sides hardened.

Mr Jerzy Urban, the government spokesman, accused Solidarity at a press conference yesterday of threatening to stage more strikes and setting pre-conditions for the talks. The statement dashed hopes that a preliminary meeting planned for today between Mr Walesa and Gen Caslaw Kies-

crak, the Interior Minister, who is to chair the talks, would take place.

Solidarity, for its part, reiterated at the weekend that the authorities should at least declare their intention to recognise the banned movement and reinstate workers sacked for their part in the strikes last month before the talks begin.

Pro-Solidarity intellectuals, who met on Sunday at St Brygidy's church in Gdansk, demanded legalisation of the union as "the main and most urgent condition" for starting a government-opposition dialogue. They warned that Poland could face a massive strike wave if both sides did not act quickly.

Mr Urban said: "On the platform agreed at St Brygidy's church one cannot reach agreement which is so badly needed, for development of political reforms, for constructive talks on the trade union movement model and for improvement of society's living conditions."

The authorities remain unwilling to legalise Solidarity as a shop-floor organisation. Fledgling Solidarity unions in southern Poland within a month were secured as a condition of the ending of the strikes but yesterday Mr Urban implied that reinstatement would only follow progress at the talks.

Finland unveils plan to lower taxation

By Olli Virtanen in Helsinki

FINLAND yesterday unveiled a 1989 budget which marks the first stage of a major tax reform involving a reduction in direct taxation. It provides for a 5.5 per cent rise in spending, which is set to reach FM124.2bn (£16.5bn).

Taxpayers will be slightly better off next year, while the state's net borrowing requirement will be reduced by 40 per cent to FM2.4bn.

The budget, presented to parliament yesterday, will lower all tax brackets, including the highest one which will come down from 51 to 44 per cent and to 40 per cent in 1990. The gross tax rate will come down by 0.5 per cent to 37 per cent in 1989, but it is still 0.5 per cent higher than in 1987.

The proposed tax reforms aim to cut direct taxes and broaden the tax base. The state will collect FM4.7bn less in income taxes in 1989 while the tax burden on companies will increase by FM800m.

The dividend will be covered by increasing taxes on various benefits in kind and cutting a number of allowances. Use of company cars will be taxed close to its actual value, and the same will apply to company provided meals, housing and insurance policies. Corporate taxes will be low-

ered in 1990 from 33 per cent to 28 per cent. The Government also introduces the "avoir fiscal" taxation principle in 1990 in which the company pays taxes on dividend.

Capital gains taxes will tighten. The budget proposal implies that 80 per cent of capital gains on property or securities would become taxable after five years.

The Government also plans to simplify property taxes by introducing just one bracket. The rate of 0.9 per cent will apply to property valued above FM1m. The current tax ranges between 1.0 and 1.7 per cent.

The Government expects Finland's economic prospects to be weakened in 1989 due to declining competitiveness, increasing current account deficit and high inflation.

The current account deficit is expected to rise from the current FM9.25bn to FM15.25bn in 1989. Inflation will jump from 3.7 per cent in 1987 to 5.85 per cent this year and the budget statement projects a decline to 4.5 per cent next year.

Finland's GDP is seen rising to 4 per cent this year, including 0.5 per cent which is due to crops returning to normal levels after failure in 1987. Next year the GDP rise will decline to 2 per cent.

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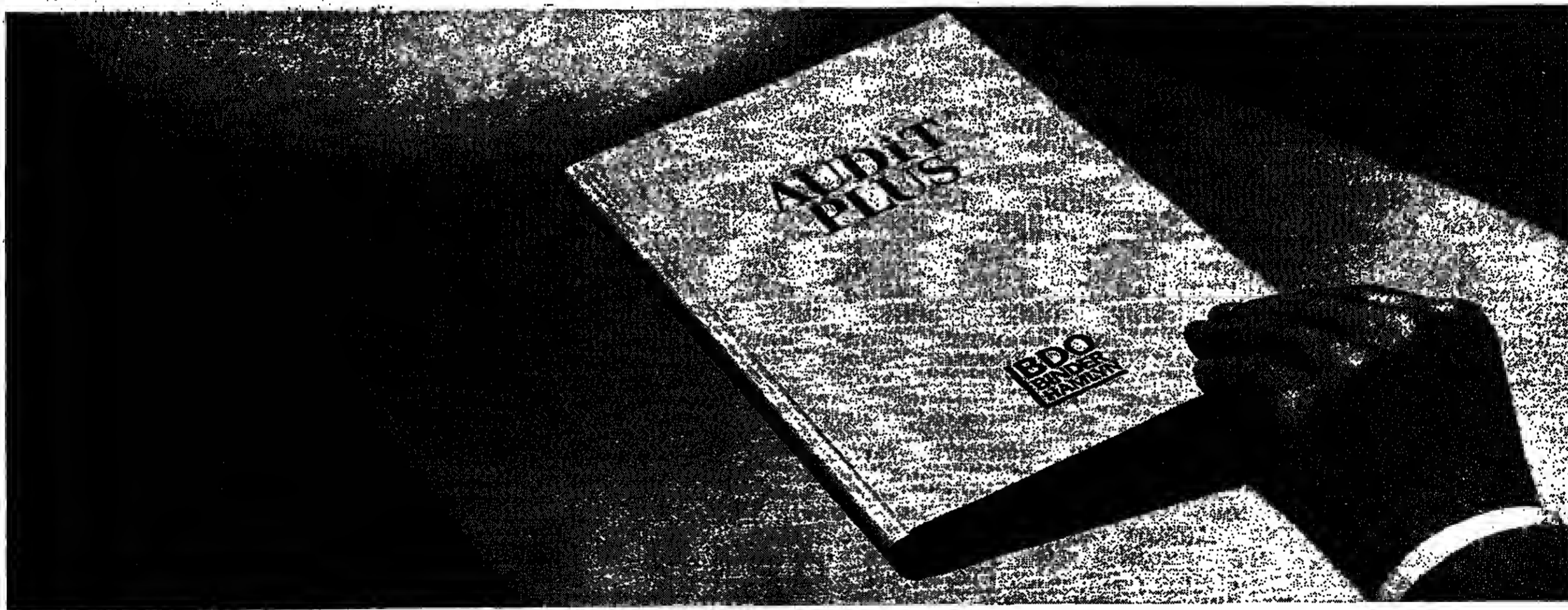
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WORLD TRADE NEWS

US rice millers seek entry to Japan

By Peter Montagnon in London and Ian Rodger in Tokyo

THE US Rice Millers Association is to file a formal unfair trading complaint today with the US Trade Representative in Washington, seeking action to open Japan's market to rice imports.

A spokesman for the US Trade Representative in Washington yesterday declined to speculate on how the Reagan Administration will react to the complaint, but it will have 45 days from today to decide whether to take it up.

However, the Reagan Administration would be risking a major confrontation with Japan by threatening action over rice, trade experts say.

be considered by the US now, are to reject the petition on the grounds that the Uruguay Round will be subject to an official mid-term review in Montreal this December, or to take the matter to the General Agreement on Tariffs and Trade in Geneva.

Soviet exports may face dumping action

By Quentin Peel in Moscow

SOVIET EXPORTERS eager to take advantage of new freedom to conclude their own sales contracts could be hit by a rash of anti-dumping actions in the European Community and other markets, a leading Soviet trade analyst has warned.

Indeed, the first sign of a change in Soviet attitudes towards the Community was a leading final diplomatic recognition last June - was when a Soviet lawyer appeared to contest an anti-dumping case in the European Court of Justice in 1983.

Tokyo cash buys a home among equivocal Thais

A RECENT editorial by Trisoon, a popular Bangkok columnist, warned that companies against "treacherous collaboration" with Japanese attempts to buy all the country's seaside land, saying that one day "Thais may have no land to reside on."

audio tapes face similar opposition. Wages, Japanese companies lure away staff from Thai companies with higher wages.

Tokyo seeks special treatment from Gatt

By William Dufforce in Geneva

JAPAN, the world's largest net food importer, has asked for special treatment for rice in the reform of agricultural trade under negotiation in the General Agreement on Tariffs and Trade.

He was addressing the group negotiating on agriculture in Gatt's Uruguay Round which now has less than three months before trade ministers meet in Montreal for the round's mid-term review, in which to narrow wide differences between the major farm trading nations.

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Japanese money is flowing into Thailand despite fears of a return of xenophobic feeling, reports Richard Gourlay in Bangkok

The BIC has noted these signals but is still actively promoting Japanese investments, saying "we do not want to lose the momentum." The incipient resentment of the Japanese is in any case dulled by Thai participation, through joint ventures, in 80 per cent of Japanese investments, according to Jetro.

Despite the official BIC policy, there are some signs of discrimination against Japanese investment. The incipient resentment of the Japanese is in any case dulled by Thai participation, through joint ventures, in 80 per cent of Japanese investments, according to Jetro.

Advertisement for DALGETY featuring the headline 'During a period of transition, we are very pleased to announce our highest ever earnings.' and a table of financial data comparing 1987 and 1988 performance.

Japan's largest net food importer, has asked for special treatment for rice in the reform of agricultural trade under negotiation in the General Agreement on Tariffs and Trade.

All Philippines drugs to carry generic names

By Richard Gourlay in Manila

PRESIDENT Corason Aquino yesterday signed a bill requiring the use of generic names on all drugs sold in the Philippines against broad opposition from many manufacturers and some doctors.

Italy moves to accept Karin B toxic waste

By John Wyles in Rome

THE ITALIAN government yesterday proposed that night towards Britain's acceptance of the arrival at the port of Livorno of the much-traded Karin B, with its cargo of 2,100 tonnes of toxic waste.

Italy moves to accept Karin B toxic waste

By John Wyles in Rome

After being rejected by Ravenna, hopes of disposing of the waste in northern Europe were frustrated by the refusal of French, British and Dutch authorities, among others, to allow it to pass.

UK NEWS

Post workers trickle back

By Charles Leadbeater, Labour Correspondent

ONLY a small proportion of the 100,000 postal staff who have been on strike for the last 13 days returned to work yesterday. The Post Office and leaders of the Union of Communications Workers agreed to end the dispute on Monday. Only some 4,000 staff had returned to work yesterday evening at 47 small offices. Of the 82 big mechanised sorting offices, which form the core of the corporation's network, only staff at three - Tunbridge Wells in Kent, Shrewsbury and Brighton - had returned to work.

The Post Office said that it expected more staff to return on the night shift, including workers at three other mechanised sorting offices at Southampton, Portsmouth and

Newcastle. Despite the sluggish return to work UCUW leaders and Post Office officials said there were no signs that the national agreement was foundering on local resistance. The Post Office said that it still expected the first deliveries to be made by the end of the week, and postal services to return to normal within two weeks.

Managers have to agree with local union branches measures to clear the backlog of 150m unsorted letters and parcels, which has built up through the dispute over the corporation's decision to pay special recruitment supplements in the south-east.

The most contentious issue will be the mix of extra overtime and increased use of

casual workers which is used to clear the backlog. Talks in Glasgow broke down over the use of casual staff. But the UCUW said as yet no other local talks had broken down.

The progress of the return to work is likely to hinge on votes today at the main sorting offices at London, Liverpool, Manchester and Birmingham. The return to work elsewhere in the country would be significantly slowed should these offices remain on strike.

Local union officials said they could not guarantee that London offices would return to work today.

Mr Bill Cockburn, the Royal Mail's managing director, called on the union's national leadership to ensure local officials stood by the agreement.

Fake goods 'represent up to 6% of world trade'

By Richard Donkin

COUNTERFEITING is a worldwide practice which may represent between 3 per cent and 6 per cent of world trade, an expert in the subject told a Confederation of British Industry conference in London yesterday.

Mr Archie Wordsell, secretary of the Anti-Counterfeiting Group, a trade association with 70 member companies, said UK motor parts manufacturers alone estimated that counterfeiting cost them £200m a year in lost exports.

In some cases, she said, counterfeiting had proved disastrous. East African coffee farmers had lost most of their crop worth £20m, a few years ago after using an ineffective counterfeit fungicide.

Ms Wordsell said Swiss watch manufacturers estimated that 10m fake "Swiss" watches were made every year, costing their industry \$600m (£220m).

She said: "One clothing manufacturer I know of says that sales of counterfeit goods of their brand exceed their own sales by 100 per cent."

The clandestine nature of the industry, Ms Wordsell said, meant that accurate statistics were not available, but counterfeiting in some Third World countries had reached endemic proportions.

Showing a counterfeit pack of contraceptive pills, on sale in Nigeria, she said: "We estimate that 60 per cent of the market in drugs in Nigeria is made up of counterfeit or adulterated products."

Parts for heart pacemakers and antibiotics made of ground turpentine were other examples of counterfeit products discovered worldwide, she said, although none had yet turned up in Britain.

Mr Wordsell said British companies could do far more to protect their products.

She advised companies worried that their product could be copied to register their trademark in a country, such as Taiwan, which was known to have a prolific counterfeit industry. Manufacturers could introduce better security labelling on products and alert staff to the potential for counterfeiting.

SAS to 'take no chances' in Gibraltar

By Joseph Garcia in Gibraltar

THE overriding consideration in the operation which ended in the deaths of three IRA terrorists in Gibraltar last March was to protect life, a member of the SAS elite military task force told an inquest into the deaths yesterday.

Identified only as Soldier E, he said he was the tactical commander of the SAS soldiers on the ground.

He stressed that the rules of engagement and the principle of minimum force had been made clear to his men, who were identified only as Soldiers A to D.

The packed coroner's court in Gibraltar was told Soldier E had instructed his men to issue a warning to the terrorists - Mr Sean Savage, Mr Daniel McCann and Miss Mairead Farrell - but that this could be dispensed with if it was likely to jeopardise the operation. Their mission was to arrest them but to take no chances.

He denied suggestions by Mr Patrick McCrory, the lawyer acting for the families of the terrorists, that the operation was based on guesswork.

He had told his men the ter-

Sunday Times reporters face contempt charge

Four journalists for the Sunday Times, Britain's biggest circulation broadsheet Sunday paper, have been ordered to appear before the Gibraltar Supreme Court for alleged contempt in their reporting of the inquest into the shooting by the SAS of three IRA terrorists in March, writes Richard Evans.

The summons, served on one of the reporters in Gibraltar yesterday, orders the four to appear before the Supreme

Court on September 23 or shortly afterwards.

Mr Roy Greenhalgh, Sunday Times associate editor, said the newspaper would contest the allegations. He believed it had adhered to warnings given by Mr Felix Pizzarello, the coroner, that the media should beware of possible contempt.

The alleged contempt covers two aspects of the coverage last Sunday on the front page and in an extended feature inside. One was a prediction of

the detailed evidence to be given to the court by Mr Alan Feraday, a Defence Ministry explosives expert, and the other was the comments made outside the court after giving evidence by Professor Alan Watson, the senior crown pathologist.

The four are Richard Ellis, James Adams, defence correspondent, Jon Craig, home affairs correspondent, and Andrew Hogg, head of the insight investigative team.

Rivals set to tie up valuable packets of postal business

Alice Rawsthorn counts the strike's cost to the Post Office

AS THE postal workers struggle to clear the mountain of undelivered mail and to resume a normal service, the Post Office must assess the long-term impact of the postal strike on its business.

In the last national stoppage of 1971 the courier companies, telefax networks and even motorcycle messenger services were in their infancy. This time an infrastructure of couriers and messengers was available to deliver the letters and parcels usually entrusted to the Post Office.

Letters were sent by fax or telephone. Parcels were bundled off to private couriers. The motorcycle messengers and bicycle companies enjoyed a bonanza of extra business. The critical question for the Post Office is how much of this business can it recover? And how much has been lost?

The Post Office is confident that it can regain its standard letter business. The cost of sending letters by fax or courier is so high that most customers will return to the Royal Mail as soon as normal deliveries are resumed.

Delapost, the premium letter service, may be more vulnerable. Many courier companies offer similar services. Interlink expects to retain 40 per cent of the 14,000 extra Delapost-style

deliveries generated by the strike. The British Document Exchange increased its turnover by 40 per cent. All its 'trikebound' customers signed year-long contracts.

The Post Office may also lose some of its £150m business with the direct mail industry. Direct mail has exploded in the 1980s and one in 10 letters delivered by the Post Office is now a direct mail item.

When the postal system came to a standstill, the direct mail industry collapsed. The sheer volume of most mail shots meant that there was no short-term alternative for the direct mail companies to turn to.

The industry is now considering larger term alternatives. Mr Brian King, managing director of Bellman Direct, one of the largest companies, is lobbying for an industry-wide feasibility study into the cost of establishing a bulk mailing system.

Yet the most vulnerable part of the Post Office is its £253m parcels business. The "economy" parcels will return to the Post Office, but it may be more difficult to recover premium parcels from the courier companies. The Post Office's new SuperService, a special business service introduced in

April, has already "suffered very badly".

All the courier companies experienced a boom in demand during the strike. The volume of parcels handled by Securicor rose by 40 per cent. Some of its "new" customers have already signed long-term contracts.

Other Post Office customers are now reviewing their distribution arrangements. Mr Michael Pickard, chief executive of Sears, the retail group, says that it is assessing alternative forms of distribution for Freeman's, its mail order business. One of the most serious consequences of the 1971 strike was the loss of mail order contracts when companies set up their own distribution divisions.

The parcels division has hitherto been among the most profitable areas of activity for the Post Office. Last year it made a return on sales of 7.4 per cent, compared with the 5.8 per cent for the Post Office as a whole.

As Mr Bill Cockburn, managing director of Royal Mail Letters, admits, the disruption of the last fortnight has dealt "a considerable knock" to customers' confidence. The Post Office must now restore lost confidence and repair the financial - and political - damage caused by the strike.

£300m bid to revive Plymouth docks

By Anthony Morston

A £200m scheme to bring new life to Plymouth's industrial waterfront has been proposed by DML, the company which won a seven-year contract in 1987 to manage the city's Devonport dockyard, and Avatar, the property-development company.

Mr Mike Leese, managing director of DML, said in Plymouth yesterday that the scheme could create up to 3,500 jobs in a city which has seen a serious decline in its dockyard workforce.

The Devonport yard has lost 4,500 jobs since 1985 and is expected to lose a further 3,000 by 1990, bringing its numbers down from 13,500 to 6,100.

A co-ordinated public and private sector approach to regenerating an entire waterfront area of Plymouth will greatly benefit the local economy, creating employment and projecting Plymouth on to the national stage as a major centre for industry, commerce and tourism," Mr Leese said.

Mr Martin Winch, managing

director of Avatar, added the project "would become a blueprint example of the public and private sector working together to achieve real improvements for the local economy."

The Ministry of Defence, which owns a large part of the site, has given a cautious welcome to the proposal which will go before the city council at the end of this month. Leaders of both the majority Conservative and opposition Labour parties have welcomed the suggestions in principle.

A new company would be set up to undertake the development, the first major scheme in the city since it was rebuilt after severe bombing in the Second World War. DML, Avatar and the city council would have shares in the company.

The redevelopment is the first major proposal for the future of the sprawling dockyard since DML took over.

Public and private housing and a range of environmental improvements are proposed.

Timber levy urged to aid rain forests

By John Hunt

THE UK Timber Trade Federation has proposed a surcharge on tropical timber imported into Britain to raise \$30m a year to help save the rain forests in the producing countries.

The federation's Dutch counterpart, the Nederlandse Houtbond, has made a similar proposal. It is hoped other European Community countries and timber-importing nations will follow suit.

The decision was taken unanimously at a special meeting of the 600-strong federation on Monday. It will now approach the British Government to ask it to collect the surcharge for the timber trade.

There is no doubt that such a proposal would mean a rise in the price of tropical timber imported from such countries as the Philippines, Indonesia, Malaysia and Brazil. The federation will let individual companies decide whether to pass on the surcharge to the consumer.

So far, the precise percentage of the charge has not been

decided. In 1987 tropical wood accounted for £373m of Britain's imports. It is made up of sawn timber, plywood and veneers. That compares with the non-tropical timbers which accounted for £1.4bn in 1987.

The scheme comes in response to criticism of the depletion of the world's tropical rain forests.

Continual reduction in the rain forest is believed to increase the danger of the "greenhouse" effect - the over-heating of the world's atmosphere. It is also thought timber cutting has contributed to flooding in Bangladesh.

Friends of the Earth, the conservation organisation, last night welcomed it as an important victory in its campaign.

Mr Simon Counsell, the organisation's rain forest campaigner, said: "It should be seen as an insurance policy by the trade against the disappearance of an essential raw commodity and the invaluable environmental services provided by tropical forests."



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UK NEWS

Colleges offered company status under reform plan

By David Thomas, Education Correspondent

THE Government is to launch a campaign to persuade businessmen to help run 600 further education colleges in England, it was announced yesterday. The plan could include corporate status for some colleges.

Ministers will also give much greater financial and management responsibilities to the colleges which provide work-oriented training for students of 16 years old or more.

The Department of Education and Science (DES) believes some of the colleges, which have an average annual budget of £2.5m each, will take corporate status by registering as companies under the Companies Act. This will give them considerable freedom to enter into contracts and, in theory, to set their own pay rates for staff.

Further education colleges take in about 1.7m students a year, have an annual budget of about £1bn and employ more than 50,000 staff.

Under the terms of the Education Reform Act, polytechnics and larger higher education colleges are to become independent institutions, leaving the smaller further education colleges under local authority control.

The DES yesterday issued local authorities with two circulars laying down guidelines about how these smaller colleges are to be run.

The colleges' governing bodies will have to be smaller than at present and about half their members must represent employers. The Government believes this will attract high calibre local businessmen to

The Confederation of British Industry, the employers' organisation, is planning an initiative to help solve teacher shortages, which it believes could threaten Government educational reforms.

The organisation's education and training committee is to consider a paper tomorrow outlining possible action to ease specific shortages. Such action might include paying for greater pay differentiation on a regional and subject basis.

The paper might also include initiatives by which businesses to help schools. This may include the involvement of workers in technical subjects affected by shortages of staff. Help for early retirees to retrain as teachers, and support for efforts to attract those in mid-career into teaching.

Latest figures for applicants to teacher training courses this year show a fall of 7.3 per cent in the number of students wanting to become secondary teachers, compared with the same period last year.

Colleges will be encouraged to run their own bank accounts, but they will not be allowed to have an overdraft.

They will have to operate within the national pay agreements for college lecturers and other local authority staff, but they will have some discretion over grading and starting salaries.

However, the DES is suggesting that some colleges, with their local authority's agreement, could form themselves into companies. This would not only make it easier for them to enter into contracts, but it could, in time, allow some to set their own pay rates for lecturers in shortage subjects.

Local authorities must submit proposals embodying these guidelines to the Government for approval. The new arrangements are intended to come into force by April 1990 outside inner London, with inner London following two years later.

IBM, world's biggest computer company, has announced a software package tailor-made for schools.

Reuter may shed jobs in savings programme

By Raymond Snoddy

REUTER, the international news and information group, could shed hundreds of jobs in a cost-cutting programme.

Management of the London-based organisation completed a review of all operations in the last few days. Reuter, which employs about 10,000 people, has grown substantially over the past decade in financial information and services.

Mr Glen Reifreth, Reuter's managing director and chief executive, announced the review in July. He said it was prompted by a fall in the company's revenue growth rate because of slower trading room system sales after the stock market crash last October and the strength of sterling.

Reuter said yesterday it did not know how many jobs would be lost because most would come from attrition, redeployment and voluntary redundancy.

Rationalisation will be centred mainly on the relocation of virtually all the operations of Reuter's IDR subsidiary from Long Island, New York, to Chicago. IDR makes components for video terminals and employs about 200 people.

The other areas affected include marketing, development, editorial and administration. There will be what Reuter describes as a few editorial redundancies in London.

None of the 112 bureaux around the world would be closed and the company would not withdraw from any of its present business activities.

Poll tax rebates outlined for 1.2m Scots

By James Buxton, Scottish Correspondent

ALMOST a third of Scottish adults will not have to pay the community charge in full, the Government said yesterday. More than half the country's pensioners will be entitled to a rebate.

Mr Malcolm Rifkind, the Scottish Secretary, yesterday presented details of the rebate system for the charge, or poll tax, which comes into force in Scotland next April - a year ahead of the rest of Britain. He did so on a day of protest

against the poll tax by Scottish trade unions, and in a week which sees important votes by opposition parties on whether to support non-payment of the tax.

The poll tax will replace the current rates charged to home owners for community services. The community charge will be a flat rate applied to those aged 18 or over, with closely defined exceptions.

Mr Rifkind said official estimates suggested that 1.2m of

the 1.8m adults in Scotland would be entitled to some form of rebate.

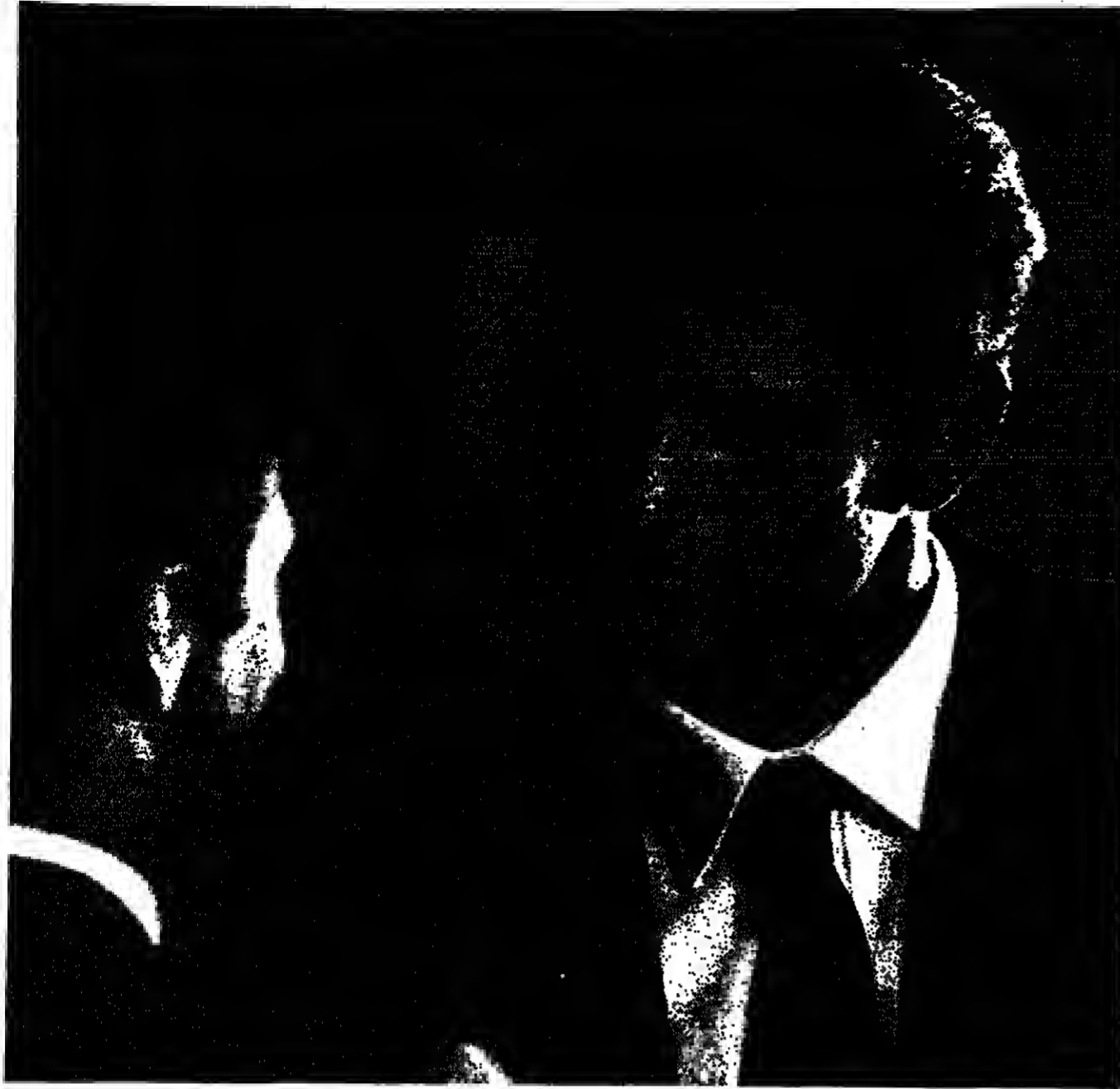
All people on income support would pay the lowest 20 per cent level of the charge. Ability to pay was a fundamental characteristic of the community charge system, he said.

In Glasgow yesterday traffic was briefly disrupted by an 11-minute demonstration timed for 11 am as part of the Scottish Trades Union Congress's

protest against the poll tax.

There were small demonstrations in Edinburgh and other cities, and production was interrupted at several factories.

A Mori opinion poll in The Scotsman newspaper showed that 70 per cent of Scots surveyed disapproved of the community charge, 5 per cent fewer than in a similar poll in March. About 32 per cent of Conservative voters said they disapproved.



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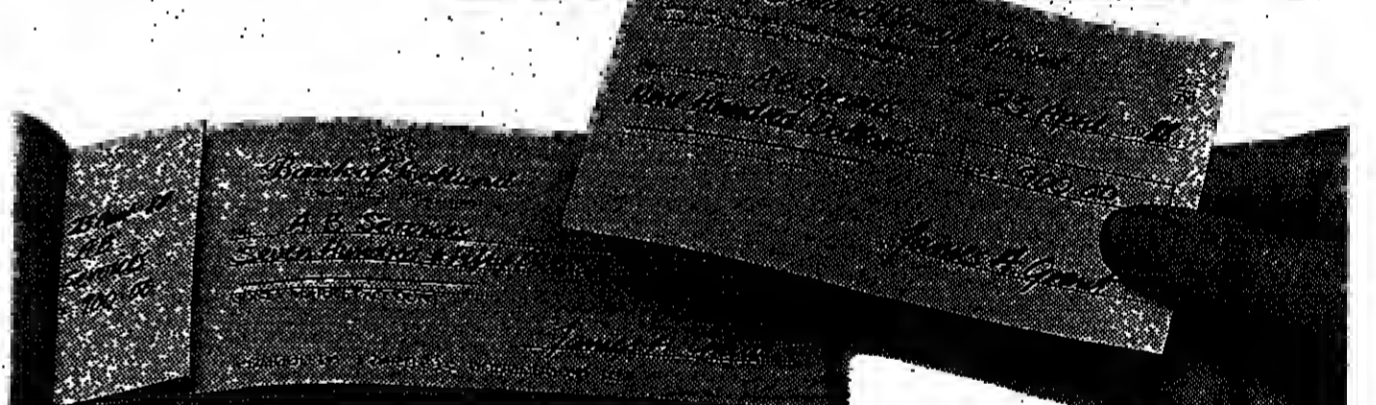
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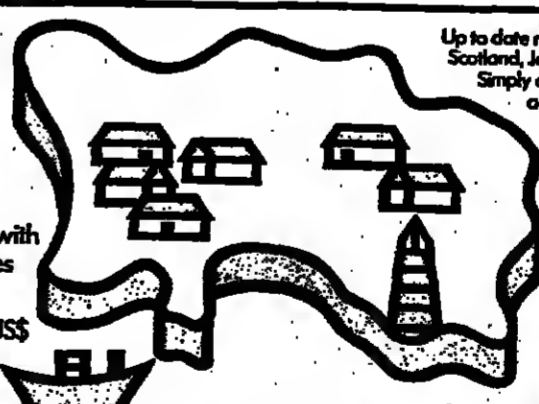


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UK NEWS

Reinforcements for Ulster troops 'ruled out for now'

By David White, Defence Correspondent

TROOP reinforcements for Northern Ireland are being ruled out for the time being, according to top Whitehall officials.

There was no sense in sending extra troops into the province in response to the latest wave of bomb attacks by the outlawed Irish Republican Army unless they had a specific role. A strengthened military presence would simply provide the terrorists with more potential targets, the officials said.

Forces already committed to Northern Ireland could be redeployed in the light of the latest security review. The Government plans to maintain its current force levels, although the last two battalion-strength units sent in to provide extra patrols in 1985 were originally intended as temporary.

Army strength in Northern Ireland stands at about 18,700, 10,200 regular soldiers and 6,500 full-time or part-time members of the Ulster Defence Regiment. Six of the regular battalions are resident, on two-year assignments and the remaining four are on short tours of a few months.

This is well below the maximum strength reached in 1972, when the combined military force totalled more than 30,000.

The officials also denied that there was any plan to alter the rules of engagement under



King security review secret

which soldiers may open fire. The "yellow card" carried by all soldiers serving in Northern Ireland - which specifies that they may fire only when their lives or the lives of others are in danger - would not be changed, and the army in the province was "happy to live with it," they said.

The decisions made at last month's security review have been kept secret, but Mr Tom King, the Northern Ireland Secretary, said at the time that some of them would "become apparent shortly." This prompted speculation about troop reinforcements, the kind of visible gesture that

Unionist politicians in particular, have been calling for.

The officials said "a whole range of things" was being considered and some measures were already in place. Whatever arrangements were made, it would be impossible to protect all targets against terrorist attack. But it was possible to take and keep the initiative in the battle against the IRA, "while remaining within the law."

They expressed confidence that the Gibraltar inquest on the killing of three IRA members by a Special Air Services (SAS) commando unit last March would end with a finding of justifiable homicide, but accepted that a contrary outcome would be a big setback for forces serving in Northern Ireland.

The officials denied that Monday's bomb attack against the home of Sir Kenneth Bloomfield, the head of the Northern Ireland civil service, marked a new departure in IRA policy.

They also said they had been expecting the latest series of attacks as consignments of explosives and heavy weaponry, known to have arrived last year, were brought into play by the IRA.

Productivity 'still lags competitors'

By Philip Stephens, Economics Correspondent

THE sharp gains in productivity recorded in British manufacturing industry over the last four years have still left it between far behind its main overseas competitors, according to a report published yesterday.

The report, compiled by the PA Consulting Group and the Confederation of British Industry, the employers' organisation, highlights a number of gaps in industry's efforts to maintain the pace of productivity growth.

Analysing the results of a survey of over 800 companies, it says that too few attempt to measure productivity beyond

the immediate "shop floor". The scope for increased efficiency in other areas, such as marketing, sales and administration, is usually ignored.

Only two-thirds of the companies questioned appeared able to measure their overall unit costs, while productivity reporting systems were frequently not used. At the same time productivity-linked bonus schemes often appeared ineffective.

The result is that opportunities for further improvements in efficiency and output are being lost, the survey says.

Around 60 per cent of companies said that they had made

significant productivity gains over the past few years, while most of the others claimed small improvements. The better performance generally reflected a combination of better use of labour and investment in new machinery.

Some 46 per cent of companies, however, acknowledged that in international terms their productivity performance was below average, while 35 per cent classed it as about average and only 19 per cent thought they were near the top of the international league.

In recent years, average productivity gains in Britain have been above those of most of its

main competitors.

The average annual growth rate in the years 1983-87 was 5.5 per cent, compared to 5.5 per cent in the US, 5 per cent in Japan, 2.8 per cent in France and 2.5 per cent in West Germany.

But using figures compiled by the Paris-based Organisation for Economic Co-operation and Development, the study says that if those differentials are maintained it would take Britain seven years to catch up with productivity levels in West Germany, eight years to catch up with those in France and over 20 years to catch up with those in Japan.

Trade office widens price inquiries

By Andrew Taylor

THE OFFICE of Fair Trading has widened the scope of its investigations into building material pricing policies.

The trade watchdog has launched separate investigations in the last few weeks into suppliers of reinforced steel, heavy lift cranes, thermal and cavity wall insulation and road surfacing companies in Northern Ireland.

The informal investigations follow complaints by construction companies about the price of building materials and construction services.

Last month, the office announced a major investigation into a nationwide web of unlawful price-fixing cartels.

The office, in another move against the pricing practices of building material suppliers, has charged four ready-mixed concrete companies with contempt in the Restrictive Practices Court.

It claims Ready Mix Concrete (Thames Valley), Smiths Concrete, Pioneer Concrete and Hartigan Ready Mix have continued to operate pricing agreements which were placed on the office's register of restrictive trade practices earlier this year.

The agreements affect the companies' operations in Bicester and Banbury

Amstrad launches high-tech computer

By Alan Cane

AMSTRAD, fast growing UK electronics group, moved firmly into the professional data processing market yesterday with a new family of advanced and aggressively priced personal computers.

The most powerful of the new machines will not be available before early next year, however, because of the drastic world shortage of memory chips which has already forced Amstrad and other computer manufacturers to raise prices and delay deliveries.

Mr Alan Sugar, Amstrad chairman, said yesterday the company was now badly affected by the shortage of memory chips, known technically as Drams. "It is creating a serious situation for us," he said.

Mr Sugar pointed out the company would normally use 5.5m memory chips every month and was now rationed to only 3.5m.

Amstrad has made a significant departure from its former strategy with the introduction of the 2000 series - the new family of computers. Traditionally, it distributed low-cost IBM-compatible machines and sim-

ple word processors through a variety of channels including dealers and major commercial outlets.

It has radically restructured its dealer and distribution network. This creates two levels of dealer - Authorised Business Dealers selling the lower performance machines in the Amstrad range, and Advanced Systems Centres, dealers who can demonstrate their ability to support the most advanced personal computers based on the high performance 286 and 386 microprocessor chips from

Intel, the semiconductor manufacturer.

The 2000 family comprises three computers: an entry level model costing (excluding Value Added Tax) between £599 and £1,349 according to configuration; an intermediate model utilising the 286 chip and selling between £999 and £1,699; and a top-of-the-line 386 based model selling between £2,649 and £3,999.

Amstrad also announced a range of high performance video monitors costing from £149 to £499. IBM, Page 23

Dublin and London reaffirm joint stand against terrorism

By Charles Hodgson in London and Our Dublin Correspondent

BRITAIN and Ireland yesterday reaffirmed their commitment to co-operate in the battle against IRA terrorism and expressed support for dialogue between the main political parties in Northern Ireland after the latest round of Anglo-Irish talks in Dublin.

The meeting, called at the request of the Irish Government, follows increased concern on both sides of the border at the renewed upsurge in IRA activity and the shooting by the British army of three IRA terrorists in County Tyrone two weeks ago.

Mr Tom King, the Northern Ireland Secretary, who chaired the meeting jointly with Mr Brian Lenihan, the Irish Foreign Minister, said there had been an exchange of views on possible new cross-border security measures but refused to give details.

He said both governments were determined to stand together against the threat posed by terrorism and he expressed appreciation for recent arms finds by the Irish police.

As yesterday's meeting was convened, police in Northern Ireland announced they had uncovered a sizeable cache of

arms and bomb-making equipment in Londonderry.

Irish police also said yesterday they had found an underground bunker used to store explosives near the border with Northern Ireland.

Mr Lenihan said both governments were extremely concerned about the deteriorating security situation but added that increased security measures in the North must be accompanied by political dialogue if progress is to be made in ending violence.

Mr Lenihan ruled out demands from Unionist politicians for a suspension of the Anglo-Irish Agreement before they took part in talks. He said both Dublin and London believed dialogue could take place without any aspect of the agreement being suspended and any talks could be conducted in parallel with the agreement.

Mr King said he shared Irish concern that there should be political progress. "I hope there can be sensible dialogue, not the present situation of total freeze and unwillingness to discuss the way forward, and I want to see a more constructive approach," he said.

Before going into the talks, Mr King held a 45-minute meeting with Mr Charles Haughey, the Irish Prime Minister.

IBA plans 20 radio stations

By Raymond Snoddy

THE Independent Broadcasting Authority plans to set up about 20 commercial radio stations in the UK by the middle of next year.

The stations would offer additional services in areas already served by an independent local radio station. The franchises could serve ethnic minorities, "communities of interest" such as specialist types of music, or provide towns with the radio equivalent of a local newspaper.

A plan has been submitted to the Home Office after Mr Douglas Hurd, Home Secretary, invited proposals from the IBA for the development of commercial radio before new broadcasting legislation in 1990.

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INTERNATIONAL APPOINTMENTS

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Well respected Wall Street Investment Banking firm, a pioneer in dealing in international shares with U.S. institutions, seeks experienced, progressive, talented international equities analyst. Ability to analyse and convey timely investment ideas to subscribers and institutions throughout the U.S. and Europe. High pay commensurate with experience and production. Must be willing to relocate to New York. Send resume in confidence. Write to Box 48988, Financial Times, 19 Colindale Avenue, London WC9 4DF

IMRO

INVESTMENT MANAGEMENT

ACA's


Professionalism City Exposure Training Variety

These are just some of the attractions of IMRO (Investment Management Regulatory Organisation Ltd) for the professionals currently in the IMRO team. IMRO now seeks to appoint a number of qualified ACA's to further complement its inspection and investigation staff.

IMRO has developed a strong dynamic team of professionals in preparation for its role as a Self Regulating Organisation centred upon regulation of Investment Management ranging from the major merchant banks to smaller independent concerns. This is a unique opportunity to gain first-hand knowledge of the sector.

These positions will be of interest to top calibre ACA's looking for a challenging and high profile role. IMRO pays competitive city salaries with a benefits package which includes mortgage subsidy.

For further details please contact Paul Wilson or Penny Bramah on 01-404 5751 or write enclosing a curriculum vitae to Michael Page City, 39-41 Parker Street, London WC2B 5LH.



Michael Page City
International Recruitment Consultants
London Paris Amsterdam Brussels Sydney

Corporate FX Salespeople


Highly Competitive Package

Our client is one of the world's leading banking organisations with a powerful and highly profitable treasury function. Its reputation in this area is of the highest standard and as a result of its continued success in London seeks to recruit two additional corporate dealers.

The successful candidates will be educated to at least 'A' level standard and be experienced in foreign exchange (spot and forward), money markets, securities and options. They will have the maturity and personal qualities necessary to build and retain customers on behalf of the Bank. A second language, ideally German, would be advantageous though not essential.

If you have the technical experience, the ability to sell and market, and a high level of drive, these positions offer the opportunity to join an outstanding operation committed to profitable expansion.

Interested parties should contact Nick Root or Nick Bennett on 01-831 2000 (evenings 675-6384) or write enclosing full C.V. to The Treasury and Investment Division, Michael Page City, 39-41 Parker Street, London WC2B 5LH.



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FINANCIAL OPPORTUNITIES

MULTI CURRENCY EUROBOND TRADER Candidate must have good trading experience in Sterling, Guilders and Deutsche Mark Euros. Please call Karen Gray for further information.	CANADIAN EQUITY SALES 2 years experience	£ Neg
FUTURES TRADER Good experience required of trading all instruments. Candidate must have excellent work record. Please call Richard Ward.	JAPANESE EQUITY SALES 2 years experience	£ Neg
SENIOR MANAGER Fixed Income. Excellent opportunity for person with several years experience in Fixed Income sales to UK Institutions. Set up and develop a team. Major investment house. Please quote ref DF/443.	EQUITY SALES Must speak Japanese	£ Neg
EUROBOND SALES Minimum 3 years sales experience required for reputable House. Good UK institutional client base essential. Please ring Karen Gray for details.	UK EQUITY SALES TO UK 2 years experience	£ Neg
CANADIAN DOLLAR TRADER Good experience trading Canadian Government Bonds. Quality House. Please call Richard Ward.	UK EQUITY SALES TO EUROPE 2 years experience	£ Neg
SALES - EUROPEAN EQUITY SALES To UK - Fluent French, experience with Equities sales preferably European. Large international house. Please call quoting ref DF/310.	EUROPEAN EQUITY SALES TO UK 2 years experience	£ Neg
AUSTRALIAN EQUITY SALES Candidate must have good UK client base and two years experience in Australian equity sales. Please call Karen Gray.	FIXED INCOME SALES Scandinavian coverage	£ Neg
ECU TRADER About 2 years experience in trading of ECU's. Please call Richard Ward.	BOND RESEARCH Fluent French or German	£ Neg
SALES - EUROBONDS Must have fluent German with experience selling Bonds to European/German institutions. Ref DF/522.	GILT SALES 2 years experience	£ Neg
CANADIAN DOLLAR EUROBOND SALES Quality House seeks Canadian dollar sales people with good European client base. Please call Karen Gray.	MANAGER GILT SALES 4 years plus experience	£ Neg
	MORTGAGE BACKED SECURITIES SALES 3 years experience	£ Neg
	TREASURY SALES 4 years experience	£ Neg
	CONVERTIBLE BOND SALES 4 years experience	£ Neg
	MANAGER - Warrants, Convertible Sales 5 years experience	£ Neg
	CORPORATE TRADER 5 years experience	£ Neg

For details of the above please call Sue Stevens.
01 377 6488
Cambridge Appointments
232 Shoreditch High Street, London E1

01-377 6488

Major International Asset Management Organisation

Head of Research


Following a decision to further expand its existing asset management arm, this prestigious international insurance group has decided to establish an in-house research capability, which has created the need for a Senior Researcher.

It is vital that applicants have strong man-management skills, as the role entails responsibility for recruitment and the structuring of this new department. The intention is to develop a hard core of analytical talent responsible, not only for monitoring broker material, but also for developing original research.

This unique opportunity to develop an innovative unit will be attractive to candidates from a broad range of backgrounds. Those of particular interest to our client will currently be sector specialists who desire exposure to a wider market; Fund Managers with a strong analytical bias and a desire to specialise in research; or generalist equity researchers.

Salary will be negotiable and dependent upon a combination of career record and future potential.

Interested candidates should write to Andrew Stewart at the address below enclosing a comprehensive C.V. or telephone him on 01-248 3653 (01-385 9616 evenings/weekends) or use our confidential fax line on 01-248 2814. All applications will be treated in the strictest confidence.



BBM
ASSOCIATES

76, Watling Street, London EC4M 9BJ Tel: 01-248 3653/01-489 8070

CONSULTANTS IN RECRUITMENT

Senior Sterling Dealer

City
Attractive salary package
with Company Car

Enhance your dealing scope by applying your skills to our growing Dealing team at the London Branch of this leading Austrian bank.

If you are aged between 30-40 and have at least five years' experience in all aspects of the domestic sterling market also using forward cable and arbitrage skills, you may have what it takes to further develop our already profitable sterling book.

With your all round knowledge of the sterling money markets and products you will work within the money market team and report direct to Chief Dealer. We think the excellent remuneration package we offer is likely to attract the right candidate.

Applications, in confidence, are therefore invited in writing with full curriculum vitae to Rosemary Jordan, Manager - Personnel, Girozentrale Vienna, 68 Cornhill, London EC3V 3QE. The closing date for receipt of applications is 26th September (No Agencies please).



Girozentrale Vienna
BANK

SPOT DEALER

As part of a planned expansion of its Treasury operations my client, a leading British Merchant Bank and Accepting House, is seeking to recruit an additional dealer to strengthen its established dealing team.

Candidates, aged 25 to 35, should have been dealing for not less than three years and have current experience trading spot Dollar/Yen.

Competitive terms will include negotiable salary, bonus and a full range of banking benefits.

To discuss this position in complete confidence please telephone:

Terence Stephenson
Prince Rupert House
9/10 College Hill
London EC4R 1AS
Tel: 01 248 0263

KIM ENG SECURITIES

We require experienced Institutional Sales people with specialised knowledge of the Singapore/Malaysian and Hong Kong market in our London Office.

An attractive salary and benefits package will be offered, commensurate with experience.

Please forward a curriculum vitae to:
Andrew Hobbs, Kim Eng Securities (Private) Ltd., 37 Park Street, London W1Y 3HG

SINGAPORE LONDON HONG KONG

Private Banking Executive

c.£30,000p.a.,
plus Car and
Banking Benefits


The Hongkong and Shanghai Banking Corporation, one of the world's leading international banks, is seeking to recruit an executive to join the London office of the group's global private banking network.

The position will include responsibility for marketing the bank's extensive range of services to an international client base, managing existing accounts and developing new business relationships with high network individuals.

Candidates, aged about 30, will have a full knowledge of investment management, tax and estate planning, preferably gained within the private client division of an international bank. Strong personal qualities, particularly self-motivation, determination and initiative are essential to assist the development of new business opportunities. In this context, overseas marketing experience would be an advantage as the role will involve foreign travel.

In addition to the salary indicated, an attractive benefits package includes non-contributory pension scheme, car, mortgage subsidy and BUPA.

Please write enclosing full personal career details to: Mrs Sylvia Keats, Personnel Department, Hongkong and Shanghai Banking Corporation, 99 Bishopsgate, London EC2P 2LA.



Hongkong Bank
The Hongkong and Shanghai Banking Corporation

Structured Finance

£ Negotiable

A well-known progressive international bank with a significant and growing presence in the London market seeks to recruit a key member of their leveraged finance team. The bank targets medium-sized U.K. corporates and provides innovative solutions to client problems on a fee-earning, transaction oriented basis. The structured financing department will liaise closely with the corporate finance and banking teams but has full responsibility for sourcing, structuring and negotiating deals.

The ideal candidate will be a graduate with several years' relevant experience in a merchant or commercial bank. A sound credit training is important as is a thorough understanding of cashflow based funding. Exposure to the structuring and negotiating of leveraged finance deals is essential for this exciting and influential role.

Interested candidates should contact Mark Hartsorne or Niall Macnaughton on 01-404 5751 or write to them at Michael Page City, 39-41 Parker Street, London WC2B 5LH. (Fax No. 01-831 2612).



Michael Page City
International Recruitment Consultants
London Paris Amsterdam Brussels Sydney

لدينا في الأصل

Corporate Finance Executive Oil & Gas

Morgan Grenfell & Co. Limited, a member of The Securities Association, is seeking an Executive to join its Energy Group which is situated within the Corporate Finance Division. This Group provides advice to oil industry clients regarding acquisitions and divestments, asset based financing and other financial advice. The role will involve research, analytical and valuation work, as well as considerable client contact.

Applicants should be aged under 30 and have 2-5 years experience of cashflow evaluation and a knowledge of the UK oil taxation regime, probably acquired in the oil industry or in the financial sector.

The remuneration package will be highly competitive and will include a preferential mortgage scheme, non-contributory pension scheme and private medical cover.

Applications, including full personal and career details, should be sent to:-

Miss G. Nash
Morgan Grenfell & Co. Limited
23 Great Winchester Street
London EC2P 2AX

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GRENFELL**

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LUCIAN MIERS
OR
GAVIN FLAXMAN
75 Carter Lane,
London, EC4V 5EP
Telephone Number:
01 236 6224

Assistant Directors and Managers

CORPORATE ADVISORY DEPARTMENT

Our advisory team is one of the most active in the City. Recent work for clients includes advising Irish Distillers, Pleasurama, Beazer, Nestlé, Harris Queensway, Tomkins, Ward White and Sandell Perkins on major public transactions.

The growth of our business means that we are now looking for executives with at least two years' Corporate Finance experience who can contribute to some of the most exciting and imaginative transactions in the City.

Apply in confidence to:

David Reed
Managing Director
County NatWest Limited
Drapers Gardens,
12 Throgmorton Avenue,
London EC2P 2ES
Telephone 01-826 8366

COUNTY NATWEST

↳ The NatWest Investment Bank Group

Senior Banking Appointments

London Bank £60,000 plus benefits

We are seeking to fill two of the most interesting and challenging senior banking appointments in the City of London.

Our client is a well-known, foreign-owned London bank serving the needs of clients engaged in international trade and development.

A recent review of future business strategy has identified changes required to increase the bank's competitive position. As a result two Deputy General Managers are to be appointed to manage two key areas of the bank.

The Deputy General Manager - Operations

will have responsibility for the operations and finance functions, and for managing the process of change in these areas.

The Deputy General Manager - Business Development

will have the overall task of expanding the range and sophistication of the bank's products and services and delivering these to clients in an innovative and profitable way.

Both these positions require persons with well developed management skills, familiarity with the international banking field, and the ability and energy to take on new challenges in a changing environment.

These senior appointments will command salaries of £60,000, supplemented by a full range of banking benefits.

If you wish to apply for either of these positions please write - in confidence - enclosing a CV to Douglas Austin, ref. 7041/7042. Alternatively telephone 01-487 5000. Fax: 01-487 4374/5.

MSL International (UK) Ltd, 32 Aybrook Street, London W1M 3JL.

Offices in Europe, the Americas, Australasia and Asia Pacific.

MSL International

Corporate Finance

ACA's & Solicitors

Our client, a leading U.K. merchant bank, has an active and highly innovative corporate finance department.

Continued expansion has created opportunities for young, high calibre professionals with first class academic backgrounds and lively personalities to join its corporate finance division.

This is an excellent career move for ambitious individuals looking to undertake a challenging, fast moving and rewarding role with excellent long term career prospects.

If you are interested in discussing these roles please ring Penny Bramah on 01-404 5751 or write to her at Michael Page City, 39-41 Parker Street, London WC2B 5LH.

Michael Page City
International Recruitment Consultants
London Paris Amsterdam Brussels Sydney

British Steel Pension Fund

Investment Management UK EQUITIES

British Steel Pension Fund has a vacancy in its UK Equities team, responsible for a portfolio worth over £1,800M.

Based in Victoria, the job is "Investment Analyst - UK Equities" but involves both a management and an analytical role. The successful candidate would be expected to make a significant contribution in a team where remuneration is based on performance.

Applicants should have a degree or a professional qualification, and have at least two years relevant experience gained in a stockbroker or investment institution.

Please write or telephone for an application form, or write, marked "Personal", enclosing a full CV, including your current salary, to:-

Investment Manager
British Steel Pension Fund
Redstock House
5 Ecclestone Street
London SW1W 9LX
Telephone: 01-739 5256

THE UNIVERSITY OF LEEDS DEPARTMENT OF MECHANICAL ENGINEERING

CHAIR OF MANUFACTURING ENGINEERING

Applications are invited for a new Chair of Manufacturing Engineering established in the Department of Mechanical Engineering. This new development enjoys UGC, OTE and industrial support and the post is tenable from 1st June 1989. The successful candidate will play a leading role in the development of new 3-year B.Eng and 4-year M.Eng schemes in Manufacturing Systems Engineering and in research in the general field of manufacturing within the Department of Mechanical Engineering. Further academic and technical posts will be established in support of this development in the period up to 1991/92. The salary will be within the professional range. Further particulars may be obtained from the Registrar, the University of Leeds, Leeds LS2 9JT, quoting reference 68/58. Applications (two copies) giving details of age, qualifications and experience and the names of three referees should reach the Registrar not later than 28 October 1988. Applicants from overseas may apply in the first instance by cable, telex (856473 UNLDS G) or facsimile (0532 336017), naming three referees, preferably in the United Kingdom.

FIXED INCOME SALES

Our client, a highly prestigious and front line U.S. investment bank is looking to expand its well known fixed income sales team in London. You need to have sales experience in this field, be highly ambitious and committed and preferably have a degree. European languages would be a real asset. Multi-product training will be given if necessary. Age 25-32.

Salary top end of the market.

For further information please telephone us on 01-589 0072 until 6.30 pm.

**T M INTERNATIONAL RECRUITMENT
CONSULTANTS LTD**
50 HANS CRESCENT
LONDON SW1

OPPORTUNITIES FOR DEALERS

To revitalise a trading room

The varied fortunes of the US regional banks have been the subject of much speculation over the past year. In our client's case the speculation is over, the way forward that much clearer and, importantly, the level of commitment to a London presence undiminished.

Chief Dealer

To provide a funding base from which to develop FX, and to profit from off-Balance Sheet trading, we are looking for an experienced Dealer with a demonstrable track record in deposit trading, coupled with foreign exchange exposure and familiarity with all money market instruments. Ideal candidates, probably not less than thirty five, will need the maturity and presence to start from scratch and enough energy to generate confidence - and profits! Day to day responsibility for the dealing room will be total so you will obviously need management skills as well as trading abilities. All that is a lot to ask, but in return our clients are offering a suitably generous remuneration package which adds to the attraction of the role. (Reference WE 8190).

Dealer

Still at a high level but reporting to, and very much working with, the Chief Dealer, you will need the same qualities outlined above but with two or three years' experience trading deposits and FX. Flexibility and initiative are the key requirements in this role, combined with the opportunity to work in a small, close knit environment. The learning and responsibility curve will be steep and you will need to meet that challenge! Again, salary expectations are unlikely to disappoint. (Reference WE 8191).

In the current circumstances, please ring Malcolm Lawson on 01-439 4581 during the working day or 0444-73216 in the evening for a very brief discussion. Paperwork can be sent by fax to 01-439 6205 or 01-755 0586. For the future, correspondence should be sent to Ward Executive Limited, Academy House, 26-28 Sackville Street, London W1X 2QL.

WARD EXECUTIVE

LIMITED

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CJA

RECRUITMENT CONSULTANTS GROUP

3 London Wall Buildings, London Wall, London EC2M 5PJ
Tel: 01-588 3588 or 01-588 3578
Telex No. 887374 Fax No. 01-256 8501

Excellent career opportunity with early prospects of increased responsibility and remuneration.



CONTRACTS NEGOTIATOR - AIRCRAFT

HOME COUNTIES

MAJOR MANUFACTURER

£16,000-£19,000

To meet the increasing demand for their well-known range of civil aircraft, our client requires additional Contracts Negotiators. Working closely with the Sales Department, and with the support of a team of specialists, the responsibilities include the initial preparation of proposals, the arrangement of leases, negotiation with customers at the highest level and sales financing - usually overseas. The successful candidates (who are unlikely to be aged less than 27) will be educated to degree level and/or with a legal or accountancy qualification. A background in aviation is not essential, but candidates should be able to demonstrate relevant experience in preparing and negotiating business terms for high value contracts. Initial remuneration will be dependent on age and experience and assistance with removal expenses is available where appropriate. Applications in strict confidence under reference CNA4623/FT to the Managing Director, where possible either by fax on 01-256 8501 or 01-638 9216 or by telephone on either 01-638 4313, 01-638 2185 (day-time) or 01-670 3308 (evenings): CJA.

3 LONDON WALL BUILDINGS, LONDON WALL, LONDON EC2M 5PJ. TELEPHONE: 01-588 3588 or 3578. TELEX: 887374. FAX: 01-256 8501.

مكتبة المصنف

What you see below is Biometric Security in action. The operator stretches out his hand. He places it on a measureplate in front of him. A three-dimensional image of his hand is then calculated. It takes into account the distance between fingers, palm thickness, even the translucency of his skin.

If the image matches his pre-recorded one, he is granted access to the computer.

Biometric Security devices authenticate a person's identity by matching a unique physical or behavioural characteristic.

Currently there are six types available. Hand geometry, retina scans or the 'eye



**ONE SMALL GESTURE COULD HELP
SAVE £40 MILLION A YEAR LOST THROUGH FRAUD.**

signature, voice verification, fingerprinting, signature comparison and keystroke dynamics (typing patterns).

Together they form the most sophisticated defence against computer fraud. Indeed, they have been described as 'the Rolls Royces of the security industry.'

Installed throughout British Industry, they could go a long way to negating computer fraud altogether.

Yet regrettably they are employed in relatively few companies. That in itself gives just cause for concern.

But consider this: Computer fraud is just the tip of a £5 billion fraud iceberg.

It is a fact that the majority of frauds are committed by disgruntled employees. That 75% of all frauds are for sums no more than £25,000. And that most frauds are discovered by accident or by tip-offs.

Unfortunately it is also true that many companies seem to have adopted a 'head in the sand' attitude to the whole problem.

They believe that their security is quite sufficient already. And that it is hardly management's responsibility to act as their employees' conscience.

At Ernst & Whinney, we take a different view. We believe that responsibility for preventing, detecting and limiting the effects of fraud lies primarily with management.

But we offer you more than just informed opinion. We've set up a group within our organisation to deal specifically with fraud.

We have specialists within the group who can help you create the most effective security system.

We can even assess the impact and consequences of suspected or proven fraud.

Call us today if you think we can help. More pointedly, call us if you think you are convinced we cannot.

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ted jobs
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HOW THE POSTAL DISPUTE COULD AFFECT YOUR RIGHT TO VOTE.

The postal dispute has disrupted the preparation of the electoral register in many areas.

You could lose your right to vote if your name is missed off the register.

Your Electoral Registration Officer may be making special arrangements locally and advertising them in local newspapers and on radio. If not here's what to do:

● If you haven't received your Electoral Registration Form by the end of the month, go along to your local council offices and ask for one.

● If you have got your registration form and were asked to post it back to the Electoral Registration Officer, fill it in, and if you can, take it to your local council offices. This applies so long as postal services in your area are disrupted.

● If you have already posted your registration form and you think that it may be caught up in the dispute, check the draft register at your local council offices, main library or Post Office. It will be published on 28th November. If your name isn't on it, contact your local council offices.

DON'T LOSE YOUR RIGHT TO VOTE



CONTRACTS

£16m oil fields development

PRESS OFFSHORE has won a £16m contract from Conoco (UK) for a large compression deck for the 'V' Fields project. The contract is expected to lead to recruitment of around 100 tradespeople at the company's four Tyneside yards to meet commitments for this and other contracts currently under fabrication.

The 5,100 tonne compression deck will be fabricated, fitted out, tested and commissioned at the Howdon Yard at Walsend. Construction will start in October with completion and loadout programmed for May 1990.

A fully integrated structure, the deck will have four levels - cellar, mezzanine, main and air cooler - with the three gas compression trains on the main level. The other levels will mainly carry process, power, control, services and safety systems. A crane will be integrated into the structure.

As part of the contract Press will also construct a 25 metre long bridge to link the compression deck to the production deck at the offshore location. Press Offshore is part of AMEC, the international construction and engineering group.

WEIR ENGINEERING PTY, the Australian subsidiary of the Weir Group, has won an order from the State Electricity Commission of Victoria to design, supply and install six boiler feed pumps for Long Yang 'B', a 2 x 500 MW coal-fired power station in the Latrobe valley, Australia. Worth over A\$13m (nearly \$5.5m), it is the fourth major contract awarded to Weir Engineering for work at Long Yang 'B' and brings its total order value to nearly A\$32m (almost \$16m). The pumps and motors will be manufactured under a co-production agreement between Weir Pumps and Weir Engineering in Sydney, and will be fully tested in Glasgow.

The pumps are to be installed on a 200-tonne concrete plinth, which will be completely fitted out off-site before being lifted into place on spring supports on the turbine hall floor.

A contract worth about \$2m has been awarded to SD by the Ministry of Defence for a Combat Net Radio Management Information System (CRIS) for the British Army. SD is the newly-formed government, defence and aerospace business within SD-Scicon, which was created by bringing together the relevant parts of Systems

Designers and from the two companies which merged in April this year. CRIS will combine tactical frequency management with automatic production and distribution of communications information and enable the radios used by the British Army to be operated more effectively in hostile battlefield environments.

FERRANTI COMPUTER SYSTEMS has won a £2m Ministry of Defence fixed-price contract to supply the Royal Navy with equipment to monitor ships' hull vibrations. Despite efforts to design vessels to operate as silently as possible every vessel generates vibrations which varies with on-board machinery in use. In order to apply a degree of control over the vibrations, they must first be measured. As well as providing the vessels' command with information about the possible noise being generated by the vessel, it can also provide an efficient method for monitoring the performance of the vessel's machinery system. The contract covers installations in surface ships and submarines. Each system comprises an array of accelerometers located around the vessel.


A variety of contracts totalling over £15m have been awarded to London building contractors **MANSKILL** for refurbishment, repair, new build, maintenance and minor works. Largest is a £2.7m contract for South West Thames Regional Health Authority at the St Heller Hospital, Carshalton, Surrey, involving the refurbishment of a six-storey ward block, upgrading a theatre unit and constructing a plant room on the roof. Work is due to be completed in October 1989.

For the Union Bank of Switzerland, the company is undertaking the £1.1m fitting out of one floor at 122 Leadenhall Street, EC3, involving the installation of services, including full air conditioning, raised floors and suspended ceilings. Work is due to finish in December.


A £1.1m refurbishment of 1-44 Nethewode Court, Lower Park Road, Belvedere, Kent, is for Columbus First Housing Association involving the installation of central heating systems in occupied flats, together with insulation of all external walls and brickwork repairs and double glazed windows. Work has started and is due for completion in September. At Blaisy & Esher Gardens,

Computer training

The Central Electricity Generating Board has awarded an \$8m contract to **MARCONI SIMULATION** for the computer hardware and software for a simulator to train operators for Britain's first pressurised water reactor nuclear power station. The simulator will be installed at the proposed PWR training centre on the site of Cliff Quay power station at Ipswich. The simulator will be used to train staff associated with the Board's PWR programme in both normal and emergency procedures - well before the first PWR currently under construction at Sizewell, Suffolk, becomes fully operational in 1994. It will provide a training environment capable of meeting the Board's requirements. The contract was won on the basis of Marconi Simulation's proprietary parallel processing approach, which has been used on previous power plant simulators. Manufacture of the simulator will be carried out at Marconi Simulation's plant near Dunfermline, Fife, and will employ 50 specialist Marconi engineers until its completion in 1991. The work will be project-managed by the CEGB's generation development and construction division.

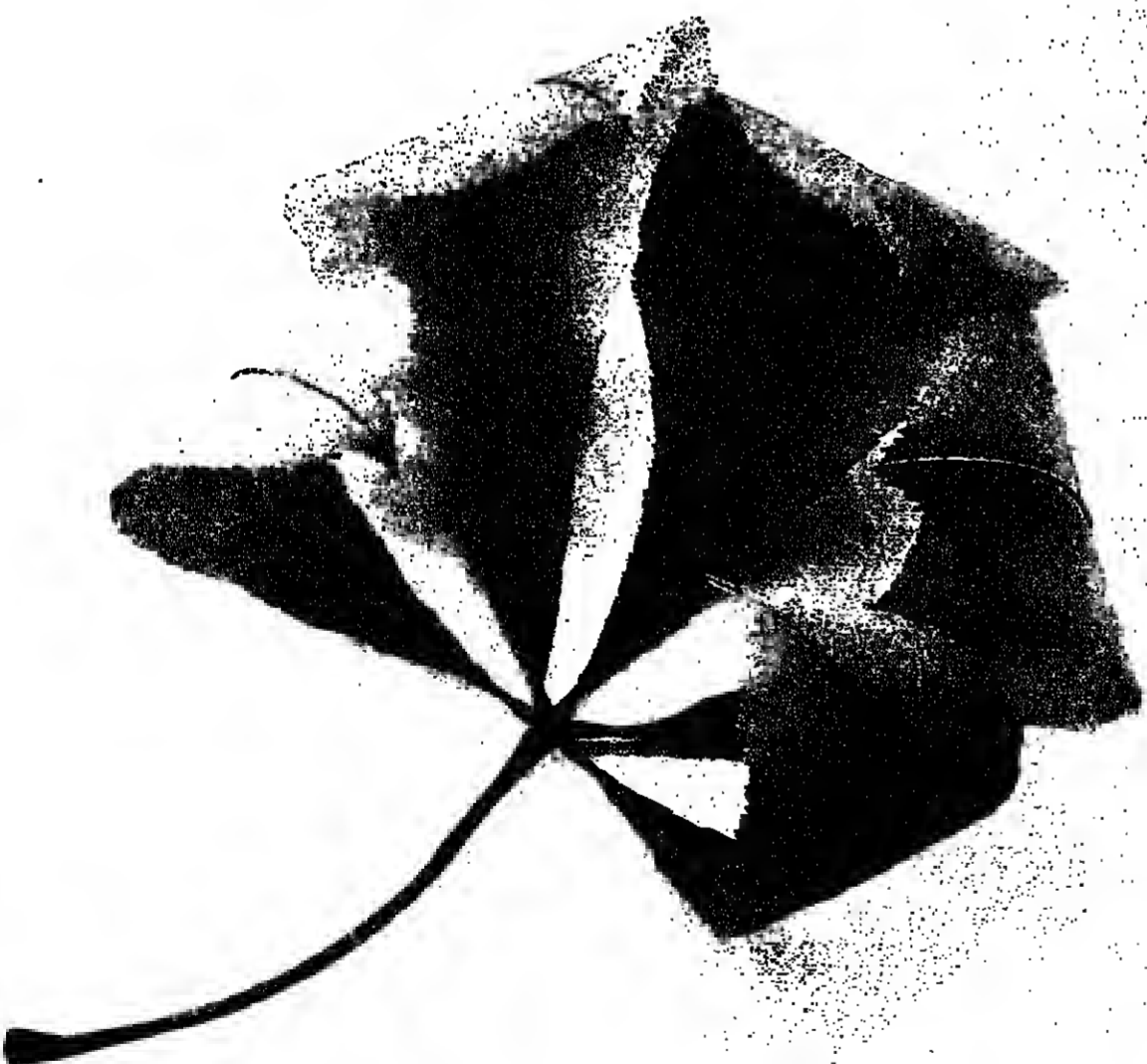


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IF THIS IS HOW YOU FEEL AFTER LONG-HAUL FLYING,



Long-haul flying can be draining no matter how comfortable the seats or how good the in-flight entertainment.

The fact is, the longer your flight, the more your biological clock gets out of time with local ones.

The key to flying is to take it easy. And there's no better airline to help you do just that than Air Canada.

Relaxation is in our blood. That's why, although our service is very attentive, you won't be fussed over unless you want to be.

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When you want to eat, the food and wine are first-rate.

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And our way is the Canadian way. Relaxed and confident.

A BREATH OF FRESH AIR



AIR CANADA



HOW DO THE PEOPLE WHO HELP YOU RUN YOUR BUSINESS RUN THEIR OWN?

As for as Britain's leading accountants and management consultants are concerned, it's with the help of Lotus.

Whilst we'd be the first to acknowledge that their success owes considerably more to their own business acumen and expertise than it does to our software, our contribution is still far from negligible.

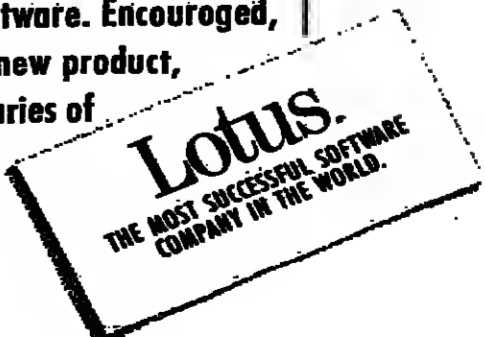
In many instances, our presence in their

business extends beyond the simple presence of our software, with their appointment as Lotus Authorised Consultants. It's a considerable achievement for a company who launched their first software only as recently as 1983.

Today, we have well over 2 million users worldwide, and offices throughout Europe, the US, and Japan; our programs are

available in nine languages; and our turnover in the last twelve months alone exceeds \$300 million.

The fact is, most successful companies use the most successful PC software. Encouraged, no doubt, that with each new product, Lotus re-define the boundaries of information technology. No question about it.



Australia

Equity Options Senior Dealer/Strategist

Our Client is the Australian subsidiary of an international stockbroking group which has offices in all the major financial centres. The organisation, which is backed by one of the world's most powerful financial institutions is committed to extending its Australian presence and as part of this programme it wishes to recruit an equity options dealer to manage, and lead the Sydney based team.

Ideally, candidates will have proven management skills, a strong track record in selling equity options to the institutional market together with the ability to develop marketing and technical strategies.

This is a critical senior appointment. It offers an opportunity to have a significant impact upon the emerging equity options market in Australia. An attractive salary and bonus package will be negotiated in order to attract experienced candidates of high calibre. Normal relocation expenses (to Sydney, Australia) will be carried by our client.

For further details please contact us quoting reference number MH 197

Rochester Recruitment Ltd, Moor House, London Wall, London EC2Y 5ET
Telephone: 01-256 5611 Fax: 01-374 0980



NORWICH UNION FUND MANAGERS LIMITED

ECONOMIST - FINANCIAL MARKETS

Norwich Union is one of the fastest growing insurance and financial services groups in the UK, a market leader and an equal opportunities employer.

Norwich Union Fund Managers Limited, members of IMRO and managing funds in excess of \$12 billion, seek an economist as a key member of their investment economics team.

The successful candidate will be directly responsible to the senior economist, and will be involved in monitoring and preparing forecasts on economies and financial markets worldwide, with a view to optimising asset allocation decisions across both short and long term funds. You will also be required to provide ad hoc information to other areas of the Group.

Ideally, you will have at least three years' experience of practical economic forecasting, probably gained in a respected public or private sector forecasting establishment. Excellent communication and interpersonal skills are essential and a sound grasp of mathematics, mathematical statistics or econometrics would be an advantage.

The post is based in Norwich which is within easy reach of the City. The very competitive salary is backed by a first-class fringe benefits package including performance related bonus and comprehensive relocation scheme where appropriate.

Please send full career and salary details, mentioning this publication, to Miss Phyl Scott, Staff Division, Norwich Union Insurance Group, Surrey Street, Norwich, NR1 3NG.



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The person appointed will be the Group's senior legal executive reporting to the Group Secretary. The role will involve the whole range of commercial legal matters expected within a multi-national enterprise and overall direction of legal work in the operating divisions.

The successful applicant will be a solicitor or barrister who has the ability to work as an effective member of the Group's senior management and make a significant contribution to the work of the Department.

Salary could be higher than indicated for an outstanding candidate and first class benefits include a quality car, medical cover and relocation expenses. Interested candidates should write to Brian Barrett, Personnel Services Manager, Fisons plc, Fison House, Princes Street, Ipswich, Suffolk IP1 1QH or alternatively, telephone him on Ipswich (0473) 232525.



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Irving Oil Limited is a privately-owned Canadian company involved in refining, marketing and distribution of petroleum products, operating Canada's largest oil refinery and tanker fleet.



IRVING OIL LIMITED

If you have an interest in joining our Company, please reply to: Irving Oil Limited, Attention: C. J. Mitchell, P.O. Box 1421, Saint John, New Brunswick, Canada, E2L 4K1.

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triple A rated, wish to recruit a foreign exchange manager for its FX operation in Singapore. This position would be of interest to a professional senior dealer with a sound, proven track record and with board experience spot/forward/deposit, since the successful candidate is expected to work closely with the existing dealing team in a "hands-on" management style.

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Please write with full details. Fax: 01-487 4374/5. These will be forwarded direct to our client. List separately any companies to whom your application should not be sent. John Welsh, ref. JW/B4.

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FINANCIAL TIMES COMPANIES & MARKETS

Wednesday September 14 1988

Thwaites ALLIUM FROM THE NO. 1 IN DUMPERS

INSIDE

Beefing up US cattle prices

Faced with a devastating drought, US cattle ranchers are trying everything to keep their herds together...

South African oil stocks 'run down to meet debt'

South Africa has run down its strategic stockpile of oil to only six months' supply...

Ford and Nissan show flexibility

Shifting alliances in the global motor industry continue to produce new ventures between former rivals...

ST sprints in chip race

In its first year of existence, the Italian-French semiconductor company SGS-Thomson has had to run at a sprint just to stay...

Fine print appeal for Briartley

A man obsessed with fine print, Sir Ron Eberley (left) is handing over the day-to-day running of his business empire and concentrating on his favourite pastime of analysing annual reports...

Market Statistics

Table with 2 columns: Market indicator and Value/Change. Includes items like Base lending rates, London share services, FT-A indices, etc.

Companies in this section

Table with 2 columns: Company Name and Price/Change. Lists various companies like Airlines of Britain, ARDAG Australia, etc.

Chief price changes yesterday

Table with 2 columns: Market/Company and Price/Change. Includes sections for FRANKFURT, NYSE, and LONDON.



Sir Denis Rooke, British Gas chairman, lamentations at being forced to part with Enterprise Oil

Rooke's move begins North Sea chess game

Max Wilkinson, Resources Editor, examines the motives behind British Gas's dawn raid for Lasmo

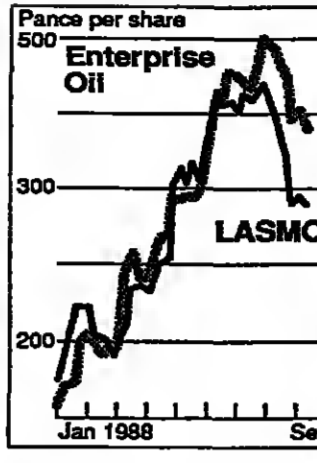
BRITISH Gas's long history as a starchy state monopoly hardly prepared for its role as a dawn rider pointing its carbine at the UK's two largest independent oil companies...

Four years of pass-the-parcel

June 1984: North Sea oil interests of British Gas are privatised as Enterprise Oil...



Christopher Greentree, chief executive of Lasmo



Graham Hearne, chief executive Enterprise Oil

IBM rivals opt for own standard

DOZENS of personal computer manufacturers, software publishers and makers of computer peripherals yesterday declared their support for a new industry standard internal 'bus' structure for high-performance personal computers...

Disposals push Gold Fields profits to £302m

By Clay Harris in London DISPOSALS of interests in Africa and Chile enabled Gold Fields, the gold-based mining finance and construction materials group, to increase profits by 22 per cent to £302m (£514m) in the year to June 30.

of £129.1m, including £97.2m in profits on disposals, the contribution from Gold Fields' natural resources subsidiaries and associates fell to £252.1m, from £249.2m, largely because of the heavy borrowing taken on by Newmont Mining in the US to repel a takeover bid by Mr T Boone Pickens, the Texan corporate raider...

BAe lifts half-time result 34% to £94m

By Michael Dennis, Aerospace Correspondent, in London BRITISH AEROSPACE, the aircraft, missiles and space group, earned pre-tax profits of £94m (£161m) in the first six months of this year, up 34 per cent from £70m in the comparable period of 1987.

Key Drexel role in Macmillan buyout

By Anatole Kalotay in New York MACMILLAN INC, the US publishing house, which has announced profits for 22 per cent to save itself from a takeover by UK publisher Robert Maxwell, said yesterday that Drexel Burnham Lambert, the controversial Wall Street investment bank, would be providing the most important part of the financing...

Wilson Bowden plc EXTRACTS FROM THE INTERIM STATEMENT For six months to 30th June 1988. Table with 3 columns: Month, 1988, 1987, Audited Year Ended 31st December 1987. Includes sections for Turnover, Profit before Tax, Earnings per Share, Dividend per Share, and Chairman's Statement.

INTERNATIONAL COMPANY NEWS

Kroger considers \$3.8bn defence against takeover

By Roderick Oram in New York

KROGER, the second largest US supermarket chain, is exploring a plan to borrow heavily so it could pay out to shareholders some \$3.8bn in cash dividends and junk bonds.

they had received regulatory approval to buy Kroger stock helped drive up the price yesterday.

quadruple its existing long-term debt of close to \$1bn. The present debt load represents about 43 per cent of its capital.

Interest gain lifts Banco Ambrosiano

NUOVO BANCO Ambrosiano (NBA), Italy's second largest private-sector bank, yesterday reported gross operating income of L135.1bn (\$86m) in the first half of the year, down from L136.4bn a year earlier, AP-DJ reports.

The bank noted, however, that without extraordinary gains recorded in the first half of 1987, gross operating income was up 7 per cent in the opening half of 1988.

Motor groups steer flexible route

Kevin Done on Ford and Nissan's approach to a joint venture

The kaleidoscope of global alliances between the main players in the world motor industry has shifted again with this week's agreement by Ford, the second largest US automotive concern, and Nissan, ranked second among Japanese vehicle makers, to join forces to produce a new multi-purpose passenger vehicle in the US.

rapidly to bring together different companies, on a more informal basis, for a series of single projects and in a series of locations.

Mr Harold Poling, Ford vice-chairman and chief operating officer, said the association with Nissan supported "our strategy of supplementing our internal resources without compromising our in-house proprietary capabilities in the essential core elements of our business."

Last month, Toyota broke ground for a new \$300m power train plant at its assembly complex at Georgetown in Kentucky, bringing its total investment at the site to \$1.1bn.

New legal setback for Monsanto

By Our New York Staff

MONSANTO, the US chemicals and pharmaceuticals group, has suffered its second court setback in a matter of days over a contraceptive device made by its G.D. Searle unit.

First-quarter loss for National Semi

By Louise Kehoe in San Francisco

STOCK prices of most US semiconductor manufacturers fell yesterday on news of disappointing results from National Semiconductor, a leading semiconductor and computer maker.

"Although our semiconductor operations experienced strong demand and growth in the seasonally slow first quarter, pressures on the Information Systems group continue to affect the company's operating performance."

Provigo boosts earnings

By Robert Gibbons in Montreal

PROVIGO, Canada's second largest food distributor, looks to have achieved a turnaround in its controversial catalogue merchandising chain.

Tractebel bonds sold

By Our Financial Staff

PETROFINA, Belgium's largest oil refiner and processor, consolidated yesterday that it has fully subscribed an issue of bonds with warrants for purchase of stock in Tractebel, a holding company active in telecommunications and energy.

Motor groups steer flexible route

Kevin Done on Ford and Nissan's approach to a joint venture

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NOVA logo and advertisement for Cdn \$1,750,000,000 Limited Recourse Term Credit Facility for the Acquisition and Refinancing of Polysar Energy & Chemical Corporation by a wholly owned subsidiary of NOVA Corporation of Alberta. Funding provided by The Bank of Nova Scotia, The Toronto-Dominion Bank, The Royal Bank of Canada, Canadian Imperial Bank of Commerce, Bank of Montreal, National Bank of Canada, Credit Suisse Canada. Agent: Scotiabank, Corporate Banking.

ML-GT New Pacific Equities Growth Fund, N.V. (Incorporated in the Netherlands Antilles). Placing by Merrill Lynch Capital Markets of up to 100,000 shares of Common Stock, par value U.S. \$1.00 per share. The principal business of ML-GT New Pacific Equities Growth Fund, N.V. is to invest in a portfolio of equity securities issued in or traded on the securities exchanges of newly industrialized or emerging countries of Asia and Oceania.

NOTICE THE SUMITOMO BANK, LIMITED U.S. \$120,000,000 2 3/4 per cent. Convertible Bonds 2000. Notice is hereby given that with respect to the issuance of 50,000,000 new shares for public offering resolved at the meeting of the Board of Directors held on 28th July, 1988, the issue price of new shares resolved at the meeting of the Board of Directors held on 22nd August, 1988, was Yen 3,262, and as a result of such resolution of the issuance of new shares for public offering the following adjustment of the conversion price shall be made pursuant to 7(H) of the Trust Deed constituting the captioned Bonds dated 29th July, 1985.

ALEXON GROUP PLC Recommended Offers for ELLIS & GOLDSTEIN (HOLDINGS) PLC. Payment of consideration due to Ellis & Goldstein shareholders. The posting date for consideration under the above Offer is Thursday, 15th September, 1988. In view of the current disruption of postal services, alternative arrangements have been made for Ellis & Goldstein shareholders, if they so wish, to collect their consideration in person from Friday, 16th September, 1988 at either of the addresses set out below.

KETSON p.l.c. Notice to the members of Ketson p.l.c. The company has today issued supplementary listing particulars relating to Ketson p.l.c.'s issue of new ordinary shares of 5p each in connection with a recommended offer to acquire the whole of the issued and to be issued ordinary share capital of The Moorgate Group Plc.

To the Holders of WARRANTS To subscribe for shares of common stock of WAKO SECURITIES CO., LTD. (Issued in conjunction with an issue by Wako Securities Co., Ltd. (the "Company") of U.S. \$50,000,000 2 1/4% Guaranteed Notes Due 1991). NOTICE OF FREE DISTRIBUTION OF SHARES AND ADJUSTMENT OF SUBSCRIPTION PRICE Pursuant to Clause 4(A) of the Instrument dated September 11, 1986 under which the above described Warrants were issued, you are hereby notified that a free distribution of Shares of our Company at the rate of 0.03 share for each one share held will be made to shareholders of record as of September 30, 1988.

Sparekassen Sønderjylland U.S. \$100,000,000 Euro-Commercial Paper Programme Dealers: Bank of America International Limited Chase Investment Bank SBCI Swiss Bank Corporation Investment banking Issuing and Paying Agents: The Chase Manhattan Bank, N.A. Arranged by: Chase Investment Bank September, 1988 CHASE

INTERNATIONAL COMPANIES AND FINANCE

SGS-Thomson's semiconductor shake-out

Terry Dodsworth reports on progress 12 months into a French-Italian merger

The development of SGS-Thomson (ST), the Italian-French semiconductor company formed in a transnational merger last year, is a good illustration of why some electronics companies have a passionate commitment to chip production and others an equally fervent desire never to enter the field. Pasquale Pistorio: "The fastest merger in history" he left, he says, will be a large number of small, highly-specialised businesses, and a few large, broadly-based groups, of which ST wants to be one.

AN EXCELLENT FIRST HALF FOR HALL ENGINEERING

HIGHLIGHTS OF THE 1988 UNAUDITED INTERIM RESULTS Table with columns for SIX MONTHS TO 30.6.88 and SIX MONTHS TO 30.6.87. Rows include TURNOVER, PROFIT BEFORE EXCEPTIONAL ITEMS, EARNINGS PER SHARE, and DIVIDEND PER SHARE.

Prospects for the remainder of the year are very encouraging and should justify the substantial capital investments currently being made in additional premises and new manufacturing plant. R.N.C. Hall Chairman

Bongrain in agreed \$140m Wilson bid

By Our Financial Staff BONGRAIN, the French producer of prepared meats and cheeses, has made an agreed \$140 million bid for Wilson Foods, valuing the Oklahoma City-based ham producer at about \$140m.

Havas battle nears end

By George Graham in Paris A MONTH-LONG tug of war over the fate of Havas, the private French advertising and communications group, was nearing its conclusion last night with a balance of forces between three groups of shareholders.

Montedison bids for SIR

By Alan Friedman in Milan MONTEDISON, the Italian chemicals company which is 42 per cent owned by the Ferruzzi group, yesterday announced that it had made a tender offer to acquire SIR, an unquoted specialty chemicals and textiles business which for eight years has been under special government-appointed administration.

Progress at Venezuela oil group

By Joseph Mann in Caracas PETROLEOS de Venezuela (PDVSA), Venezuela's national oil company, has continued to show good results for the first half of 1988 in spite of lower international oil prices.

CITIBANK, N.A. IS PLEASED TO ANNOUNCE ITS APPOINTMENT AS DEPOSITARY BANK BY EGERTON TRUST PLC FOR THEIR SPONSORED AMERICAN DEPOSITARY RECEIPTS (ADRs)

Lauritzen group stays in the red

By Hilary Barnes in Copenhagen HEAVY losses by its Danyard shipbuilding group kept the Lauritzen shipping, shipbuilding and manufacturing group in the red in the first half.

Gold Fields Notice to Holders of Ordinary Share Warrants to Bearer Final Dividend

Western Mining Corporation Limited US\$50,000,000 9% Bonds 1992 S. G. Warburg & Co. Ltd. announce that the redemption instalment of Bonds due 15th October, 1988 for a nominal value of US\$937,000, has been met by purchases in the market.

The Bear Stearns Companies Inc U.S. \$200,000,000 Floating Rate Notes due 1994

CITICORP Overseas Finance Corporation N.V. U.S. \$100,000,000 Guaranteed Floating Rate Notes due 1994

Handwritten note at the bottom center of the page.

INTERNATIONAL COMPANY NEWS

Banque Indosuez up 46% to FFr514m

BANQUE Indosuez, the French banking group, boosted net income for the first half of 1988 by 46 per cent on a combination of one-time gains and improved profit from market-related operations. AP-DJ reports from Paris.

The wholly owned bank unit of Cie. Financiere de Suisse also said it made a big increase in provisions for loan risks that brought its coverage to about 40 per cent of its loans outstanding to countries in the debt rescheduling process.

Alexandre Jeanneret-Gabigiani, Indosuez president, said the rise in first-half earnings to FFr514.8m (\$81.7m) from FFr353.2m year earlier was based on improved operating profits as well as non-recurring gains that added FFr152.5m to earnings, up from only FFr52.6m in the first half of 1987.

Raine plays for referral of Tarmac bid

By Andrew Hill in London.

RAINE INDUSTRIES, the UK householder, yesterday unveiled its strategy for the final stages of its hostile bid for Ruberoid, the British roofing materials group, gambling on the possibility that a recommended counter-bid from Tarmac would stumble over monopolies problems.

Raine's bid was due to close today, but the group said yesterday it would extend its main cash-and-shares offer at least until October 11, or until a decision was taken on whether to refer the £14m (\$240m) cash counter-bid from Tarmac, the UK building materials and construction group, to the Monopolies and Mergers Commission.

Raine, which is not going to increase its bid, also invited Ruberoid shareholders to accept the cash alternative.

Colgate-Palmolive to sell health division for \$960m

By Our Financial Staff

COLGATE-PALMOLIVE, the second largest US detergents and toiletries producer, is to sell its Kendall Company health care unit and related businesses for \$960m to privately-held Clayton and Dubilier, a leverage buyout (LBO) specialist.

New York-based Clayton and Dubilier said the company is forming to make the leveraged buyout has the equity participation of Kendall management members. It added that the transaction is the largest buyout the firm has yet undertaken but the size was a reflection of new trends in the LBO market.

Kendall, based in Boston, has been a wholly owned subsidiary of Colgate-Palmolive since 1972 and is among the top five US health care product companies. The businesses being acquired had sales of about \$850m in 1987.

Kendall manufactures and supplies disposable medical products to hospitals, alternate site healthcare facilities and the rapidly growing home healthcare market in 61 countries. It has more than 10,000 employees worldwide.

Colgate-Palmolive had announced in April that it planned to sell its health care

segment, which had total sales last year of \$1bn, against \$964.8m in 1986, and unchanged operating profit of \$92.8m. The aim of the divestiture was to allow greater financial flexibility for global consumer product opportunities and to reduce debt.

Yesterday Colgate said it anticipates it will have an after-tax gain of \$200m from the sale of the Kendall unit to the buyout group. Kendall has recently been restructured and decentralised to improve growth opportunities and profitability of individual business units.

Airlines of Britain profits soar

Michael Donne, Aerospace Correspondent, in London

THE AIRLINES of Britain Holdings group, which include British Midland Airways, earned pre-tax profits of nearly £7.6m (\$12.5m) in the first half of this year, compared with £722,000 in the first half of 1987, on turnover up from £62.57m to £82.93m.

The profit from airline operations was up from £105,000 to more than £1.2m but the bulk of the improvement came from profits on the sale and subsequent lease-back of six McDonnell Douglas DC-9 twin-engine jet airliners.

Mr Michael Bishop, the chairman, said that the continuing strength of the UK economy had been fundamental to the improvement in airline profits. Passengers carried had risen from 1.15m to nearly 1.65m.

British Midland had expanded vigorously, with the Heathrow to Amsterdam service achieving profitability. Seven more jet airliners were being introduced by the airline in the second half-year to meet rising demand on scheduled

services.

Mr Bishop said that Loganair had also recorded a significant improvement in results, while Manx Airlines continued to develop its route network to the Isle of Man, and achieved an increase in loads and continuing profitability.

Although the performance of London City Airways had been affected by the temporary suspension of services from the new London City Airport in Docklands last winter, traffic was now recovering.

UK lift truck maker jumps to £4m

By Nick Garnett in London

LANCER BOSS, the UK's second-largest lift truck maker, has continued its sharp recovery after poor results in the mid-1980s.

The family-owned company yesterday reported pre-tax profits on ordinary activities of £4.07m (\$6.93m) in the year to March on turnover up 20 per cent at £106.2m. That compares

with a profit of £266,000 in 1987 and a £2.4m loss in 1986.

Retained profit for the year at £3.1m compares with £394,000 for the previous year and a £900,000 loss in 1986.

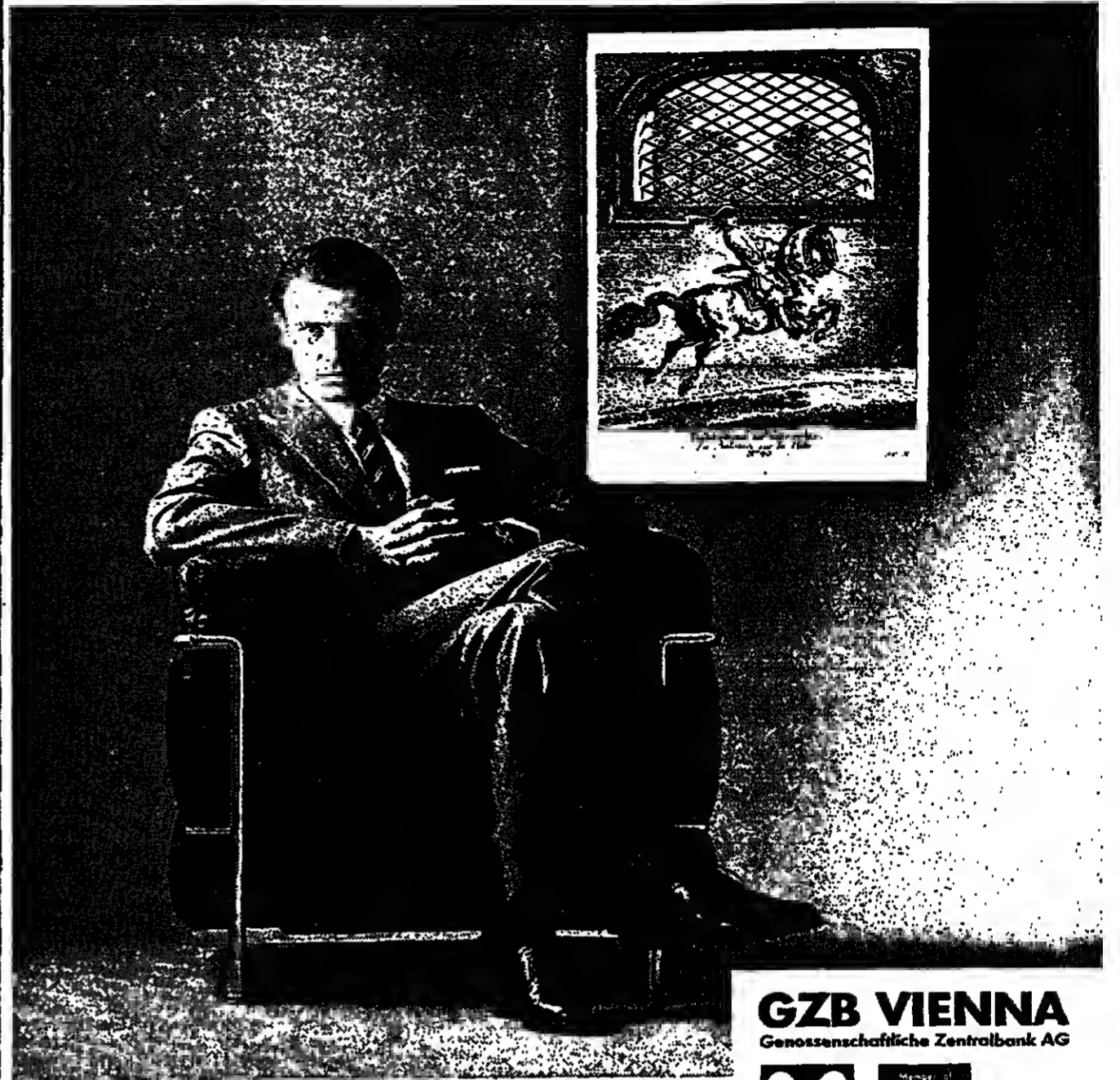
Sir Neville Bowman-Shaw, chairman and majority shareholder in Lancer, said prospects for the present year were very good. The company

makes lift trucks, sideliftr vehicles and narrow-aisle warehousing equipment.

Sir Neville said a sales rise of 20 per cent to 25 per cent had been forecast, but that the estimate might prove conservative. Profits would probably rise at a steeper rate.

However, he said he expected a downturn in the market towards the end of next year.

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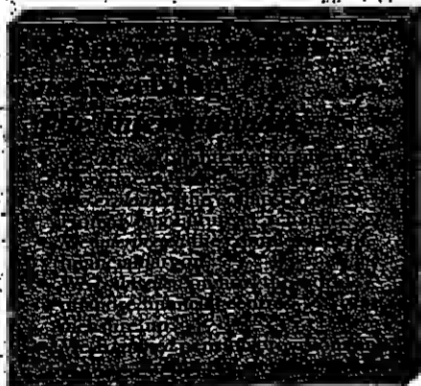
Finally, we decided that if you need that information, we'd provide it, **TOTALLY FREE**, every month.

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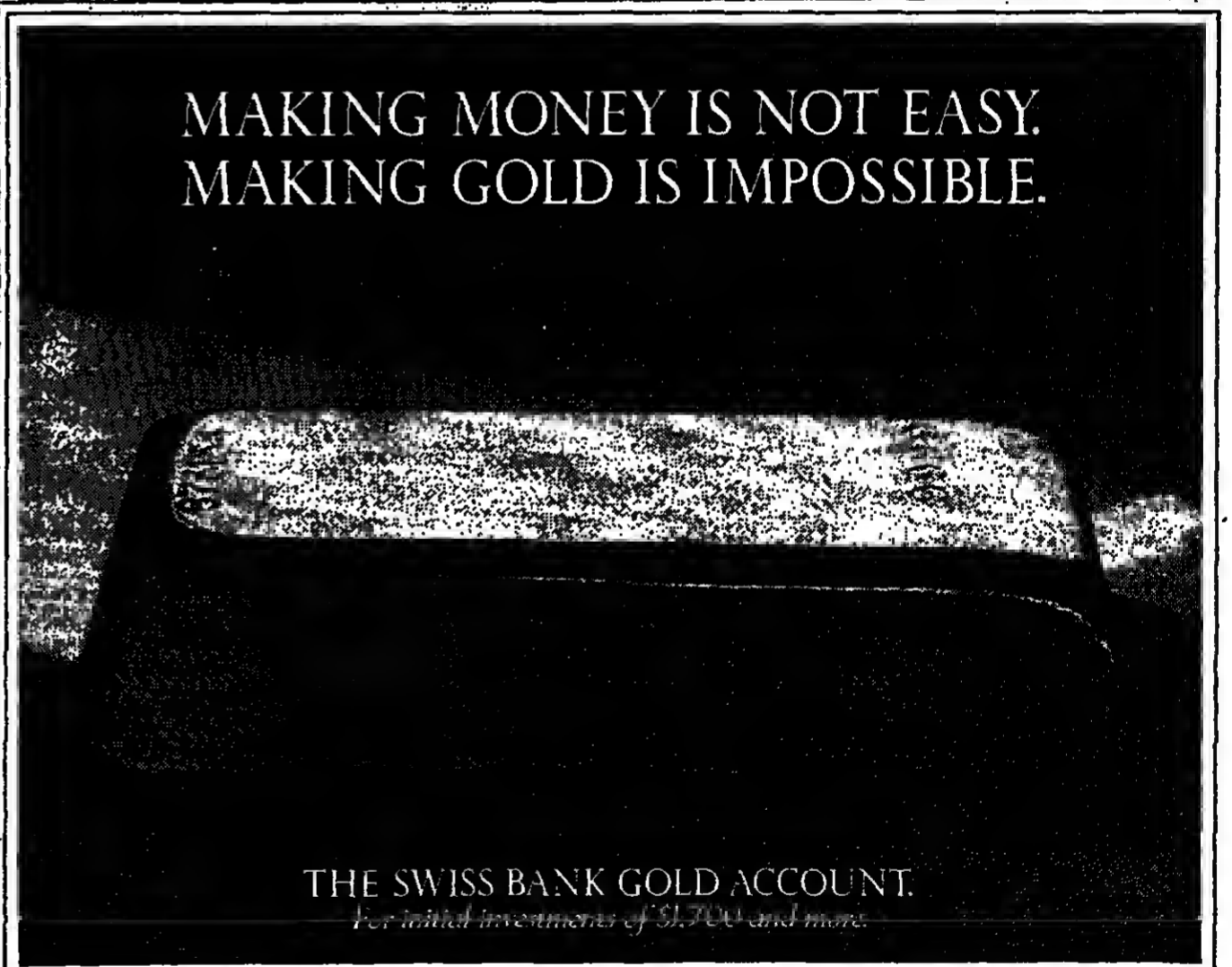
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INTERNATIONAL CAPITAL MARKETS AND COMPANIES

Price war breaks out among Eurobrokers

The men who fix the deals are slashing commissions. Our Euromarkets Staff reports

Fees charged by Eurobond brokers - the firms who match buyers and sellers among dealers in the Eurobond market - have been slashed by up to 40 per cent in the past three months...

Holdings last year, but the deal fell through in February. B&C has filed suit against Quadrex and has yet to find another buyer...

The price war in the Eurobond market is only partly a reflection of the advent of a newcomer. But it also reflects the increasing difficulty that securities houses have in making a profit...

For one thing, the brokers are the medium through which trading firms unload unprofitable new issues that they had underwritten only to satisfy a borrower or a lead underwriter...

Also, the Eurobond houses seem not to trust completely their brokers. Sometimes, they fear, brokers are showing market makers' prices to retail clients and allowing the clients to bid for bonds directly...

UBS seeks ruling on issue procedures

By Our Euromarkets Staff

THE MARKET practices committee of the International Primary Markets Association, which groups Eurobond underwriters, is scheduled to meet today to consider two contentious issues that are dividing the Eurobond business...



Rudolf Mueller calls for Merrill Lynch consensus

While there is no suggestion that UBS is using its role improperly, it remains doubtful that firms will accept discipline from those who stand to gain the most from it...

Members of the market practices committee will also be debating whether firms should be allowed to charge each other for the costs of supporting a new Eurobond that investors do not want.

\$150m issue from IBM meets with brisk demand

By Dominique Jackson

TWO NEW straight US dollar Eurobonds, initially expected on Monday, finally emerged early yesterday as syndicate managers took advantage of a period of relative calm in the markets...

Nevertheless, most dealers were extremely disappointed at the small size of the issue. Initial reports on Monday prompted market speculation that the deal could be as large as \$300m...

straight languished somewhat in the shadow of the IBM deal. BZW brought Tate & Lyle, the UK sugar refiner to the market, also with a four-year deal at 9 1/2 per cent and 10 1/4, for an initial spread at launch of 82 basis points over comparable US Treasuries...

Belgium tapped the West German bond market with a five-year DM300m issue at 5 1/2 per cent and 10 1/4 through Deutsche Bank, which also led a DM300m 10-year deal at 6 1/2 per cent and 10 1/4 for Electricite de France...

report, a correctly priced deal is virtually guaranteed a fair reception as most accounts are buying bonds to reweight their portfolios with little consideration for short term currency volatility...

INTERNATIONAL BONDS

ble US Treasuries. The issue was a refinancing of existing debt incurred when the company took over Staley Chemical of the US...

Notwithstanding the often sensitive timing of issues, in this case ahead of the US trade

Yamaichi wins Swiss bank licence

By Our Euromarkets Staff

YAMAICHI SECURITIES, the Japanese securities house, will offer a full range of financial services from October 1 at a subsidiary bank in Switzerland after receiving a banking licence from Swiss banking authorities...

Yamaichi Bank (Switzerland) is being formed to take over the activities of Yamaichi (Switzerland).

FT INTERNATIONAL BOND SERVICE

Table listing international bond yields and prices for various countries including US, UK, Germany, France, and others. Includes columns for issue name, amount, yield, and price.

Advertisement for Repap Enterprises Corporation Inc. featuring a logo and text: 'US\$100,000,000 Multicurrency Loan Facility. Arranger and Agent Bank: SBCI Swiss Bank Corporation Investment banking. Co-Arranger: Swiss Bank Corporation (Canada). Lead Managers: Banca Commerciale Italiana of Canada, The Bank of Tokyo Canada, Banque Nationale de Paris (Canada), Commerzbank Aktiengesellschaft, Fuji Bank Canada, Istituto Bancario San Paolo di Torino, Kredietbank International Group, Mitsubishi Bank of Canada, Swiss Bank Corporation (Canada), Westdeutsche Landesbank Girozentrale.'

German dealers introduce variable trade

By Our Financial Staff

WEST GERMANY'S eight stock exchanges are to quote bond prices during the course of a session on a variable basis. The new system will start on October 3, according to the working committee of the Federation of German Stock Exchanges...

The minimum transaction for variable trade will be DM1m. Banks generally trade liquid federal bonds in transactions of about DM5m. The introduction of variable trade was made possible after bourse brokers agreed to lower their commissions, the federation said...

UK COMPANY NEWS

Harland Simon shares gain 30p as Mountain Dew increases its stake

Mr Birol Nadir, 24, eldest son of Mr Asil Nadir, chairman and chief executive of Polly Peck International, has emerged as a substantial shareholder in Harland Simon, maker of computer control systems used mainly in the newspaper industry.

Crown Communications makes offer for remaining 41.8% of LBC

CROWN COMMUNICATIONS, the former Crown Television Productions, is making a recommended offer for the 41.8 per cent of London Broadcasting Company (Holdings) that it does not already own, writes Philip Sagan.

Egerton US listing Boost for Kerry

Egerton Trust, the acquisitive construction and property group, is arranging an American Depository Receipt listing in the States. The company, whose business is split between the UK and US and which has recently been building up its Stateside aggregate interests, said yesterday that this had no bearing on the previously mooted possibility of seeking a listing for Egerton Inc., its American holding company.

Stewart Wrightson integration completed

Willis Faber static at £45m

WILLIS FABER, insurance broker, yesterday turned in marginally lower pre-tax profits of £45.16m compared with 45.53m in the six months to June 30.



David Palmer - merger benefits beginning to develop.

and the benefits had begun to develop, he said, particularly in Willis Wrightson, the UK

retail broking company, and in the North American operations. All the insurance broking subsidiaries had acquired new business in the period, often due to enhanced facilities following the merger.

Savoy Hotel drops 40% to under £5m

THE SAVOY HOTEL, proprietor of some of London's finest hotels, including the Savoy itself, Claridges and the Connaught, yesterday reported a sharp decline in profits and earnings for the six months to the end of June.

Bernard Matthews hit by turkey loss

By Fiona Thompson

BERNARD MATTHEWS, turkey and meat products group, yesterday reported a drop in pre-tax profits from £11.1m to £4.7m for the half year to July 17, 1988.

North America had resulted in volatility in the animal feed market.

The tax charge was reduced to £1.6m from £2.14m. An interim dividend of 1p (1.62p) has been declared.

COMMENT: Quite simply, there were just too many whole birds around at the start of the year, so prices suffered.

run up to all important Christmas period. Matthews' strategy is to concentrate on value added items, hence cutting out product lines where it finds it difficult to do so.

DIVIDENDS ANNOUNCED

Table with columns: Company, Current payment, Date of payment, Corresponding dividend, Total for year, Total last year.

Dividends shown pence per share net except where otherwise stated. Equivalent after allowing for scrip issues, 10% capital increase by rights and/or acquisition issues. US\$M stock. \$Bil. quoted stock. *Third market. #For four-month period. All figures in Irish currency.

BOARD MEETINGS

Table with columns: Company, Date, Chairman, Secretary.

Acquisitions and efficiencies aid Hall Eng

By Andrew Hill

HALL ENGINEERING, metal stockholder and processor, returned pre-tax profits of £4.7m in the six months to June 30. This compared with £5.13m, including a £1.55m exceptional gain, in the first half of 1987.

possible purchases in the fields of steel stockholding, processing and distribution, metal pressing and plastic labelling.

Hall added that prospects for the rest of the year looked good and should justify the capital investment being made in additional premises and new manufacturing plant.

COMMENT: Although the City seemed impressed by Hall's results, the share price was unchanged at 360p. The group would suffer if there was a downturn in the construction and civil engineering industry, but enjoys a degree of protection both in the spread of its activities and

the fact that Rom River, one of its main competitors in the reinforcements field, is currently diverting most of its output to the Channel Tunnel. This leaves Hall free to take advantage of improved margins from the British Reinforced Concrete subsidiary, by servicing the remaining customers. Other divisions have also been trading strongly and analysts are looking for full-year pre-tax profits of up to £10m.

Brake Brothers up 35% to £3.83m

By Claire Pearson

BRAKE BROTHERS, supplier of frozen foods to the catering industry, increased pre-tax profits by 35 per cent to £3.83m on sales up 42 per cent to £58.5m in the six months to June 30.

adapted to the company's requirements. This will add further manufacturing capacity for "own dishes", which account for about 7 per cent of sales. But Mr Champion said he expected manufacturing to remain a minor activity.

has pleased the market with its progress since it was floated in late 1986. Nobody knows how fast UK sales of frozen foods to the catering industry are growing, but Brake, which achieved a 25 per cent increase in sales - stripping out Scotia - in the first half, must have increased its market share.

Of the three depots purchased in 1987 (aside from those acquired with Scotia) the Brighton site is now making a contribution. Brake has recently purchased a further site close to the satellite at Motherwell in Scotland, or which it plans to build a "substantial" cold store. This should be operational by mid 1988.

Earnings per share rose by 31 per cent to 5.5p (4.2p). An interim dividend of 1p (0.8p) is declared.

COMMENT: Brake had about £5m in cash at the end of June, Mr Champion said. Capital expenditure is expected to come to about £7m this year, split evenly between the two halves.

Early in the year, Brake purchased from the receiver for £1.5m a North Wales factory which is currently being

Brake Brothers is a beneficiary of the well-chronicled British trend towards eating out, and

COMMENT

Yesterday's figures from the Savoy provide a salutary reminder of the dangers for a company of having all its eggs in one basket, even one bearing the hotel trade's most illustrious name. The fact is that, unlike the booming provincial market in the UK, the top end of the London market is in a poor state, and the Savoy has suffered as a result.

London and Bishopsgate lifts New Tokyo stake

By Nikki Tait

LONDON AND Bishopsgate Holdings, the private investment management company owned mainly by Mr Robert Maxwell and Lord Donoughue, has raised its stake in New Tokyo Investment Trust to 27.6 per cent.

Ivernia West share issue

By Fiona Thompson

IVERNIA WEST, gold exploration and production company, is to raise £575,000 (£577,000) through the issue of 2.5m new shares at 30p in a placing with shareholder entitlement. Ivernia, sponsored by Goodbody James Capel, has also applied for a listing on the Third Market. The placing is conditional upon Stock Exchange permission for the shares to be dealt in on the

Hibernian jumps 51%

HIBERNIAN GROUP, Dublin-based general insurer, increased pre-tax profits by 51 per cent from £2.75m to £4.15m (£3.5m) in the six months to June 30, 1988.

Advertisement for MACESS Management Buy-Out of County NatWest Ventures. Includes details of the £20,000,000 buy-out, equity arrangement, and contact information for solicitors and accountants.

Advertisement for THOMPSON CLIVE INVESTMENTS plc. Details the placing of 3,231,710 ordinary shares at 115p per share, authorized by Schroders. Includes share capital details and contact information.

UK COMPANY NEWS

Armstrong Equipment profit falls to £7m

By Fiona Thompson

SEVERELY underestimating the price of materials and the cost of out-sourcing components has resulted in Armstrong Equipment...

on August 15 that profits were likely to be significantly short, by £2m to £4m, of the consensus forecast level of £10m...

lunched. This uncovered two things. Although the price of materials had risen substantially, the standard, rather than the new, much higher, actual cost was being charged...

Mr Watts stressed that swift action had been taken to rectify the situation, including management changes and bringing in consultants to provide back-up.

ing, but that is behind it now. Sadly what may linger for some time is the effect of the error, as Armstrong is lumbered with contracts that are underpriced...

WPP boosts Belgian presence

By Nikki Tait

WPP, the acquisitive advertising agency and marketing services company, is boosting its Belgian advertising agency presence with the acquisition of Partner, a Brussels-based company...

adjusted profits before tax were BFR25m. WPP through its acquisition of the US-based JWT Group last year, already has agency interests in Belgium with billings of about BFR1.2bn.

Belgium. WPP is paying an initial BFR50m, and a further sum, depending on performance, in 1989. The final consideration will be based on a nine times multiple of average after tax profits at Partner/JWT for the three years to end-1988.

Jacques Vert expands women's wear interests

By Alice Rawsthorn

JACQUES VERT is expanding its women's wear manufacturing interests by acquiring a clothing factory in Yorkshire from Parkland, the wool textile group for £800,000 in cash.

The Matland Womenswear factory at Upton in Yorkshire will boost Vert's manufacturing capacity by about a third. Mr Alan Cropper, finance director, said that the company had been looking for additional capacity for some time.

Gaskell over £1m mark

SALES AND profits both increased by more than 60 per cent at Gaskell Broadloom, manufacturer of carpets and floor coverings, in the six months to July 1 1988.

raised from 2.2p to 2.5p on earnings up 61 per cent to 13.7p (8.5p). D C Cook, USM-quoted motor to retail services group, has entered the north-east England car sales market through the acquisition of the freehold properties and stock of Vic Young's Garages, currently in receivership, for £785,500.

Mayborn increases

An exchange gain of £267,000 relating to the repayment of a \$1m bank loan was treated as an exceptional credit and helped Mayborn Group produce a 19 per cent improvement to £1.08m in pre-tax profits for the six months to end-June.

Acquisitions lift Corton

BOOSTED by acquisitions Corton Beach, multi-conglomerate, which moved up the Third Market to the USM in June, reported interim pre-tax profits more than doubled from £906,000 to £1.63m.

(2.9p). No interim dividend is being paid but the directors say that the final payment will be increased from last year's 0.5p. Mr Mike Kean, chairman, said the acquisitions made in the first half had been successfully integrated, with last week's purchase of Transfoods complementing the expanding food division.

BRITISH AEROSPACE INTERIM REPORT 1988

CHAIRMAN'S STATEMENT

I have now been Chairman of British Aerospace for one year and I am pleased to be able to report that your Company has continued to make considerable progress during that time.

RESULTS

Sales for the first six months at £1865 million were slightly lower than the equivalent period last year, due principally to the incidence of aircraft deliveries. 70% of these sales were exported.

SECTOR PERFORMANCE

The defence systems businesses were buoyant with a strong order book and satisfactory profits secured from a range of premium products successfully marketed against other international competitors.

AIRBUS INDUSTRIE

The Airbus product range represents exciting new aerospace technology; the new products have achieved outstanding sales success in fiercely competitive international markets.

ORGANISATION

In the past few months important changes have taken place in the organisational structure of British Aerospace to bring it into line with the changing pattern of the Group's business.

was with regret that the Board received the resignation of Mr Charles Brandon Gough - a non-executive Director.

OUTLOOK

Your Board is looking forward to the future expansion of British Aerospace. We shall continue to exploit new opportunities that hold profit earning potential and pursue policies that will improve the competitiveness of the total business.

Professor Roland Smith Chairman

13 September, 1988

CONSOLIDATED RESULTS

Table with 4 columns: From 1st January to 30th June, 1988; 1st January to 30th June, 1988; 1st January to 30th June, 1987; Year to 31st December, 1987. Rows include Turnover, Cost of sales, Trading profit, Launching costs, Share of profits of related companies, Net interest payable, Profit before taxation and exceptional item, Exceptional item, Profit/(loss) before taxation, Taxation, Profit/(loss) after taxation, Dividends, Retained profit/(deficit), Earnings/(loss) per share.

As deliveries and income do not necessarily accrue evenly throughout the year, the results for any particular half year may not be representative of the whole.

NOTES

Table with 4 columns: Note 1 Analysis of Turnover; 1st January to 30th June, 1988; 1st January to 30th June, 1987; Year to 31st December, 1987. Rows include Civil Aircraft, Military Aircraft and Support Services, Weapons and Electronic Systems, Space and Communications, Property Development and Construction, Other Enterprises.

Table with 4 columns: Note 2 Trading Profit; 1st January to 30th June, 1988; 1st January to 30th June, 1987; Year to 31st December, 1987. Rows include Civil Aircraft, Military Aircraft and Support Services, Weapons and Electronic Systems, Space and Communications, Property Development and Construction, Other Enterprises, Company Funded Product Development.

In arriving at the estimated overall profitability of contracts with extended delivery programmes, account is taken of interest attributed to customer advances as these form an integral part of the contract.

Note 3 Launching Costs Launching costs comprise design and development which is written off as incurred, except in the case of certain Airbus programmes where such expenditure is covered by HM Government launch aid.

Note 4 Taxation The taxation charge comprises UK and overseas taxation and taxation on the share of profits of related companies.

BRITISH AEROSPACE

11 Strand, London WC2N 3JT

The very success of the Airbus product range has brought its own challenges to the Board of Airbus Industrie in terms of the need for firmer management direction of what has become a major enterprise, and the provision of adequate permanent finance to fund working capital requirements of a growing and successful international business.

The Directors of British Aerospace, other than Mr J. Graham Day, are the persons responsible for the information contained in this interim report. These Directors of British Aerospace confirm that, to the best of their knowledge and belief (having taken all reasonable care to ensure that such is the case), such information is in accordance with the facts and does not omit anything likely to affect the import of such information.

This Interim Report is reproduced in full because of the difficulty of circulating the Company's shareholders and shareholders in The Rover Group plc caused by the postal dispute.

Confident Iceland up 30% to over £4m

By Clare Pearson

ICELAND FROZEN Food Holdings increased pre-tax profits by 30 per cent to £4.11m in the half year to July 31, on a 37 per cent rise in turnover to £26.15m.

Mr Malcolm Walker, chairman, said prospects for 1989 looked encouraging, as 25 new stores - an unusually high number - were already firmly committed. Ten of these should open in the first three months.

This year, store openings are likely to total 24. Six were opened in the first half, and 18 have been opened to date. In addition, 34 stores are scheduled for this year, of which 21 were completed in the first half.

Of the rise in turnover, some 14 per cent came from like-for-like growth in old stores. About £1m worth of sales were lost as a consequence of the refurbishment programme.

Some disruption to sales also came from a problem with the automatic scanning system in the new computerised cold-store, opened in May. But the company said the problem, which arose from deficiencies in bar codes on some suppliers' boxes, had now been overcome.

Earnings per share rose by 23 per cent to 2.64p (7.55p). The interim dividend is lifted to 1.7p (1.45p).

COMMENT

ICELAND, which brought you the cheeseburger with the chive inside last year, is going for garlic with everything this year. Other than that, yesterday's figures were more of the same old success story for the company, whose attention to detail in all areas of its business, from product development to cost controls, has made it the star of the frozen food market.

The hiccup at the new cold store, which Iceland says has pioneered automatic scanning of outer cases in UK, together with re fittings, caused some slippage in operating margins. Iceland, however, is confident operating margins will be back at last year's level, though somewhat lower at the pre-tax level due to a rising interest charge. Analysts yesterday stuck to expectations of £3m pre-tax for the current year; this puts the shares on a premium multiple of over 16.

But growth prospects are good. AGB research figures show that Iceland increased market share by 31 per cent in the first half, while it still makes only 27 per cent of its sales in London, East Anglia, and the south, show just how bright the future is.

Interlink at £5.8m and plans expansion

By Andrew Hill

INTERLINK EXPRESS, the franchised overnight parcel distribution and delivery company, said yesterday it would benefit both directly and indirectly from the effects of the postal strike.

Announcing a 33 per cent increase in pre-tax profits for the full year to June 30, Mr Richard Gabriel, chairman, said that at the peak of the strike, on Monday night, Interlink was handling three times as many packages as usual.

About 70 or 80 per cent of the additional business would have been eligible for a new small parcels service, which is intended to compete with the Post Office's Daypost facility. Daymail will be launched in October and Interlink aims to retain up to 40 per cent of the extra customers gained during the strike.

Mr Gabriel said yesterday about £150,000 to £200,000 of additional revenue had been earned from the dispute.

USM-quoted Interlink made £5.81m in the year, against £4.72m in 1986-87. Turnover increased by 45 per cent to £21.4m (£21.2m) and earnings per share from 19.42p to 23.18p.

In 1988-89, capacity at the central sorting depot is to be increased by at least four times and marketing resources boosted, Mr Gabriel said. His

would affect figures, although he still expected some profits growth.

Interlink also plans to operate its overnight parcel service in West Germany from May.

COMMENT

After a few years of exciting growth, Interlink has decided it is time to consolidate. The it is time to consolidate. The it is time to consolidate.

The recommended final dividend of 3.65p makes 6.9p (5.55p) for the year.

After a few years of exciting growth, Interlink has decided it is time to consolidate. The it is time to consolidate. The it is time to consolidate.

MTL tops £1m midway

IN ITS first report since coming to the USM in March, MTL Instruments, maker of electrical safety and measuring devices, saw pre-tax for the six months to end-June rise by 49 per cent to £1.12m, against £783,000.

Turnover improved from £3.59m to £4.52m and stated earnings per 10p share were 4.15p (3.02p adjusted). Tax took £411,000 (£279,000).

Mr Ian Hitchcock, chairman, said that the major part of the company's growth continued to come from abroad with overseas sales accounting for more than 85 per cent of turnover.

Further success in the US and Canada, and large sales into petrochemical projects in India played a significant part.

New products for use in hazardous areas were being developed and should be launched towards the end of this year.

SHARE STAKES

The following changes in shareholdings have been recently announced:

- Biomechanics International - USM Investments has sold 2.79m ordinary (7.5 per cent). Mr Andrew D Miller has bought 2.79m ordinary. De Morgan - Caledonian Investments bought 75,000 ordinary at 95p, lifting its holding to 2.31m shares (13.92 per cent). East Surrey Water - The Associated Insurance Pension Fund acquired 14,000 prefer-

ATTENTION HUNTER PLC SHAREHOLDERS

Wickes plc

Recommended Offer for Hunter PLC ("the Offer")

Special receiving arrangements for forms of acceptance

The first closing date for acceptances of the Offer is Saturday, 17th September, 1988. Completed forms of acceptance must be received at Barclays Bank PLC, New Issues Department, Fleetway House, 25 Farringdon Street, London EC4A 4HD no later than 3.00 pm on that day.

Due to the current postal delays, arrangements have been made for acceptances of the Offer to be received at certain branches of Barclays Bank PLC referred to below.

Completed forms of acceptance, together with the related share certificates and/or other documents of title, may be lodged by accepting Hunter shareholders in an envelope addressed to Barclays Bank PLC, New Issues Department (Fleetway House, 25 Farringdon Street, London EC4A 4HD) at the following branches of Barclays Bank by 12.00 noon on Friday, 16th September, 1988 for onward transmission at their own risk.

- Aberdeen 1 Rubislaw Terrace 217
Birmingham 65 Colmore Row
Brighton 139-142 North Street
Bristol 40 Corn Street
Cardiff 121 Queen Street
Cardle 33 English Street
Cheltenham 128 High Street
Edinburgh 35 St. Andrew Square
Exeter 20 High Street
Glasgow 90 St. Vincent Street
Ipswich 1 Princes Street
Lancaster 38 Market Street
Leeds 28-30 Park Row
Liverpool 4 Water Street
London - Pall Mall 1 Pall Mall East
Manchester 17 York Street
Newcastle upon Tyne Percy Street
Norwich Bank Place
Nottingham Old Market Square
Oxford Old Bank
Plymouth 19 Princess Street
Sheffield Commercial Street
Southampton 171-172 High Street
York 1, 2 & 3 Parliament Street

If Hunter shareholders are in any doubt as to these arrangements, they should telephone Barclays Bank PLC, New Issues Department on 01-489 1995 ext. 4228.

The directors of Wickes plc are the persons responsible for the information contained in this advertisement. To the best of their knowledge and belief (having taken all reasonable care to ensure that such is the case) the information therein is in accordance with the facts.

UK COMPANY NEWS

US growth planned as Macro 4 rises 34%

By Philip Coggan
 MACRO 4, computer software company, yesterday revealed a 34 per cent increase in pre-tax profits to £5.51m in the year to June 30.
 Last year, the company abandoned a US purchase because of the stock market crash, and there was an extraordinary debit of £400,000 relating to abortive acquisition costs.
 Nevertheless, Macro 4 is spending between \$800,000 (£470,000) and \$1m on US expansion, opening three new regional offices and launching a full marketing programme.
 Foreign exchange movements were adverse last year but the company operated a hedging programme, designed to protect it against a declining dollar. The programme earned Macro 4 £225,000 over the year.
 Macro 4 rents software to its customers and the repetitive rental content of turnover last year was over 94 per cent, with the average monthly rental increasing from £156 to £168.
 Turnover increased just over 23 per cent to £11.01m (£9.92m). Pre-tax profits were made up of operating profits of £5.52m (£3.51m) and interest received of £486,000 (£296,000). After tax of £2.13m (£1.56m), earnings per share were 15.5p (11.7p). The final dividend is 2.3p (1.75p), making a total of 3.5p (2.9p).
COMMENT
 It is easy for the market to become blasé about companies with good track records, which insist on growing organically rather than via endless acquisitions. Macro 4's strength - its rental base - gives it a quality of earnings that few others can match. But another set of excellent figures yesterday left the shares unchanged at 283p. In the short term, they may prove unexciting. This year, the company's planned investment in the US is set to bring its growth rate down to 20 per cent, rather than the 30-40 per cent to which the market is accustomed. Many British companies have burnt their fingers in the US, but Macro 4 has plenty of transatlantic experience and it seems likely that growth will be back in the 30-40 per cent range next year. On that basis, a prospective p/e of 15.5, assuming pre-tax profits of £6.7m this year, does not look demanding.

**City remains cautious despite 38% profits growth
 Ward White motors to £27.7m**

By Maggie Urry
WARD WHITE, DIY and car parts retailer, yesterday reported a near-38 per cent increase to £27.7m in pre-tax profits for the six months to end-July. Mr Philip Birch, chairman, said the results reflected buoyant trading in the group's main businesses.
 Sales were some 6 per cent lower at £342.3m, a decline explained by disposals. Excluding these, sales rose by 23 per cent, Mr Birch said.
 During the half year, the sale of three operations raised £51m and caused an extraordinary gain of £17.1m. These and earlier disposals also reduced debt, bringing the interest charge down to £3.1m (£7m).
 Mr John Sharp, finance director, said he expected balance sheet gearing at the year end to have fallen to 17 per cent, against 38 per cent last December and 82 per cent at the previous year end.
 Group operating profits rose by 17 per cent to £30m. In the DIY division, sales rose 58 per cent to £133.1m and operating profits by 70 per cent to £15.8m, indicating higher margins.
 The integration of Maseley's, bought in November 1987, was now complete, Mr Birch said, and the purchase in June of A G Stanley had made a post-interest contribution of around £700,000. Mr Birch said a new format for Stanley shops under the Homestyle banner would go on trial later this month.
 Halfords, UK car parts business, showed a 19 per cent sales increase to £85.3m and operating profits 53 per cent up at £5.1m. Mr Birch said the bulk of the group's £50m capital expenditure plans would be directed at the UK DIY and car parts business.
 In sterling terms operating profits of the US autoparts shops were barely higher at



Philip Birch - buoyant trading in main businesses.
 £6.1m, although in dollar terms they rose 12 per cent to \$10.9m. Other activities, which include Owen Owen, department stores, and businesses in the US and Sweden, contributed £2.2m to operating profits.

Earnings per share rose 28 per cent to 92p basic and 34 per cent to 103p fully diluted. The interim dividend is up 15 per cent to 3p.
COMMENT
 The City's disenchantment with Ward White meant that, despite beating expectations, the shares were unchanged at 270p yesterday. Although the period of rapid sales and purchases of businesses is now largely over with the firm establishment of the three legs, there are constant fears of further acquisitions with consequent share issues. The reduction in gearing is some comfort and there are undoubtedly more disposals to come as well as acquisitions. However, even on the more optimistic forecasts of around £85m pre-tax and a prospective p/e of under 9, there appears to be little investor interest in the shares.

Buoyant conditions boost Scottish Heritable to £4.4m

By Ray Bashford
SCOTTISH HERITABLE Trust, the industrial holding company, lifted pre-tax profits 37 per cent to £4.4m during the six months to June 30 1988.
 Earnings per share rose 16 per cent from 6.2p to 7.2p and directors have boosted the interim dividend from 2p to 2.5p.
 UK property and house building activities benefited from the buoyant industry conditions and were the biggest contributors to the improvement.
 Property development projects in London's West End were the strength behind the property division's improvement, supported by steady returns from the company's stock of flats in London and Glasgow.
 Pre-tax profit from the UK housebuilding division, which operates in York, Peterborough and North Wales, rose 20 per cent, however the returns during the second half are expected to be 15 per cent ahead.

The company's oriental carpet importing business retained market leadership although altered trading conditions in the US caused a slowdown in pre-tax profits.
 The US housebuilding activities, centred on Haven Homes, the modular homes group based in Nashville, returned a steady contribution with the board expecting an increased return during the present six months.
 The quarrying and packaging divisions, which are up for sale, also showed increases, although they have both been underperforming for some time.
 The pyrotechnics operations lost money, in line with the previous corresponding half, however the cyclical nature of the business assures a strong contribution to the annual result, directors said.
COMMENT
 Scottish Heritable is a mini-conglomerate steering a more steady course than many towards expansion. A 16 per

cent growth in earnings is not sneered at, however, as Mr Robin Garland said yesterday the company is "not out to win the world tomorrow." An acquisition up of to £50m appears well within reach and directors have been actively exploring many possibilities. A decline in gearing from 100 per cent to about 60 per cent by the end of the year heightens the possibility of a cash acquisition. The sale of the quarrying and packaging divisions, as foreshadowed, which could net about £5.5m would help clean up the rather confused collection of businesses and narrow the group's focus to more profitable areas. The US is figuring heavily in the company's plans and the purchase last month of a 25.14 per cent stake in Rangaire Corporation, the Texas-based industrial company with a Nasdaq listing, provides the opportunity to drag together its US housebuilding and quarrying interests. The company can expect pre-tax profits of £12.5m for the year, for a prospective p/e of 8.5.

Thompson Clive finally set for market debut

By Philip Coggan
THOMPSON CLIVE Investments, an investment trust specialising in venture capital, is joining the main market after abandoning a previous flotation attempt because of last year's stock market crash.
 The fund is one of four managed by Thompson Clive & Partners, a group established in 1977 by Mr Richard Thompson and Mr Colin Clive. The TCI fund was set up in 1990 and has invested in a wide spread of technology-based companies.
 Its most successful investments were in DPCE, Isotron and Microlec, all of which obtained stock market quotations. DPCE was recently taken over by Granada, and TCI's holding in Granada represents 37.6 per cent of the net asset value of the fund. Together, Granada, Isotron and Microlec constitute 61 per cent of the portfolio.
 In all, TCI has investments in 44 companies, many of them unquoted, with a total valuation of £17.5m at June 30. Net assets per share of the fund have grown from £1.3p at the end of 1982 to 174p at June 30 this year.
 Schroders is placing 3.22m shares, 25.3 per cent of the equity at 115p each; at the placing price, the shares are at a 26.8 per cent discount to the fully diluted net asset value of 157p per share. TCI will have a market capitalisation of £14.7m.
 The fund, which will be aiming for capital growth, has only one class of equity and no wind-up date.

Invergordon advances to £3.86m at halfway

INVERGORDON DISTILLERS (Holdings) saw pre-tax profits rise by almost 50 per cent to £3.86m in the six months to end-June. Sales, excluding duty, increased to £25.71m, a rise of 29 per cent.
 However, tax almost doubled to £1.62m (£863,000) because of write-downs of goodwill attached to trade marks connected with stocks purchased from a whisky trader were not allowable against tax. Earnings came out at 9.74p (7.56p) and the interim dividend is raised to 2.25p (1.75p).
 Invergordon said that demand for grain whisky fillings was firm and sales of malt whisky fillings improved.
 Blended Scotch whisky sales, both at home and abroad, increased.
 It added that the pattern of trading suggested that the results in the second half would continue to show an improvement.
 Trading profit was £4.24m (£3.18m) and the pre-tax figure was struck after interest charges of £574,000 (£585,000). Dividends absorbed £517,000 (£400,000), leaving increased retained profit for the period of £1.72m against £1.33m.
 Invergordon is 65 per cent owned by Hawker Siddeley. Recently there has been speculation that it may dispose of its holding to a possible bidder.

Sun Life advisers defend rights fees

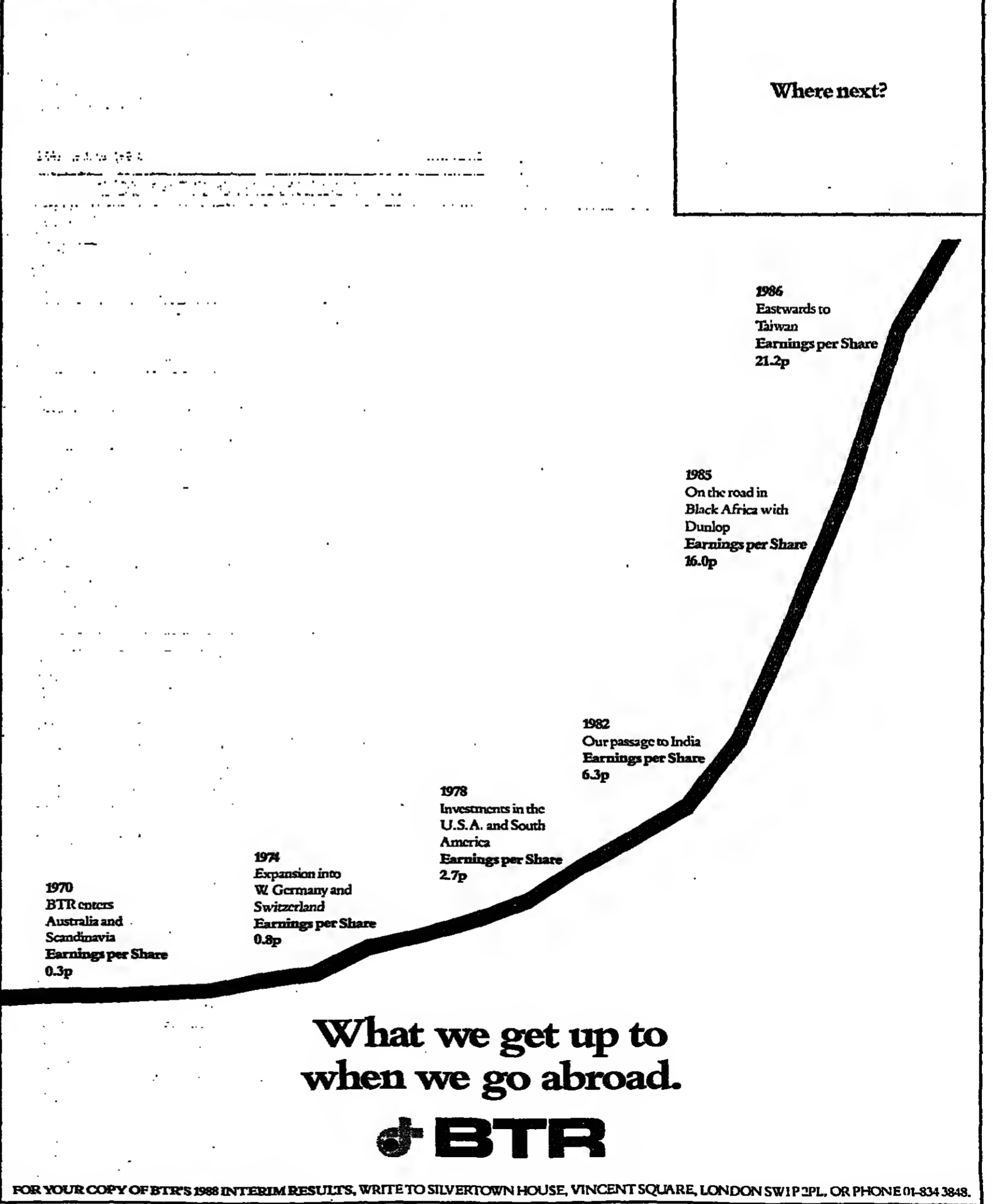
By Richard Waters
ADVISERS TO Sun Life Assurance, UK life insurer which earlier this week announced a £62m rights issue, yesterday denied that their fees of £4.5m for the deal were excessive.
 The one-for-seven issue, at 60p per share, was at a 50 per cent discount to the market price. Sun Life told shareholders that part of the reason for this deep-discount, non-underwritten issue was to save on fees.
 Mr Kit Farrow, a director of

Kleinwort Benson, which advised on the deal alongside Lazard Brothers and Rowe & Pitman, said yesterday that the £4.5m covered far more than advice on the rights issue.
 Kleinwort had been involved since earlier this year on advising Sun Life on its strategy, he said. This culminated in the cross shareholding with French insurance group Union des Assurances de Paris. Lazard was also involved in planning the deal as co-adviser to the company.
 Kleinwort's share of the £4.5m was "broadly a third", said Mr Farrow. Mr Richard Davies, a director of Lazard, declined to reveal how much his bank had been paid.
 Mr Peter Grant, Sun Life chairman, is himself a former deputy chairman of Lazard's. Shareholders will vote on the proposed increase in Sun Life's capital, which includes the creation of 13m new shares worth £158m for issue to UAP, at an extraordinary meeting on September 29.

De Morgan to acquire Retail Group for £1.9m

DE MORGAN, surveying group, is acquiring the Retail Group, retail management consultancy, for a maximum of £1.9m.
 The company said that the acquisition would enable it to offer a complete property pack-
 age to the retail sector.
 Last year the Retail Group made profits of £55,000.
 Initial consideration, in the form of de Morgan shares, will be £150,000, plus the value of the Retail Group's tax losses.

BTR'S EARNINGS PER SHARE 1969 TO 1987



WORLD ECONOMY

The Financial Times proposes to publish a Survey on the above on

September 28th

For a full editorial synopsis and advertisement details, please contact:

HUGH SUTTON

on 01-248-8000 ext 3238
 or write to him at:

Bracken House, 10 Cannon Street
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TECHNOLOGY

A scarlet sign saying "4 Hours" hangs over the portable computer assembly line at Toshiba's Ome factory, on the edge of Tokyo's urban sprawl. That means four hours a day of compulsory overtime for the full-time production workers, extending their working day from 8 am to 9 pm, with an hour's lunch break.

Even the so-called part-time "housewife" workers are being asked to work two hours' overtime a day, according to Tsuneaki Okada, manager of the Ome factory. Dressed in the production line uniform of dove-grey coats and blue caps, these women fit components into Toshiba's lap-top computers from 9 am to 6 pm.

The computers are assembled by hand, although robots are used elsewhere in the factory (to make printers, for example). Okada says that robots "are not flexible enough" to cope with the short production runs and frequent changeover of model which characterise computer manufacturing.

However, most employees at Ome are not manual workers but white collar engineering and administrative staff (their uniform is beige and burly). They work even longer hours, often from 7 am to 11 pm.

These long working days - which seem excessive even by Japanese standards - are Toshiba's way of meeting the strong international demand for its lap-top computers. Although the company did not invent portable computers, it has done more than any other to pioneer the development of personal computers which are light enough to carry and powerful enough to use as serious business machines.

Assessing the competitive position of companies in the portable computer market is difficult because there are no generally accepted definitions of such terms as portable, lap-top, rugged, transportable and mobile. Toshiba says it sold 170,000 lap-tops outside Japan last year, giving it a third of the international market. Current production levels at the Ome factory (30,000 lap-tops per month) suggest that sales may double this year.

Ironically, Toshiba is doing better in Europe, where it has no computer manufacturing facilities, than in the US, where it makes 10,000 lap-tops per month at a factory in California. Half of the lap-top computers sold in Europe last year were made by Toshiba, according to Intelligent Electronics/Dataquest, the Paris-based analysts.



Toshiba software engineers using laptop computers for conventional desktop work

The lap-tops that mean business

Clive Cookson reports on Toshiba's role in developing the portable computer

In the US, where Toshiba claims 25 per cent of the lap-top market, it faces more effective competition from American manufacturers such as Zenith and Grid. The company has also suffered from adverse publicity in the US about illegal sales of submarine technology to the Soviet Union by a subsidiary, Toshiba Machine Company.

Toshiba's main rival at the heavy end of the portable market is Compaq of the US, though the American company's 20 lb "lunchbox" portable machines are less easy to lug around than Toshiba's most powerful 18 lb "briefcase" style computers.

According to the research company Romtec, Toshiba and Compaq have about 40 per cent each by value of the US market for "mobile computers", which was worth \$27m in the second quarter of 1988. This is based on a fairly wide definition of mobile, including both battery powered lap-top computers and larger transportable machines, such as Compaq's, which need to be plugged into an external power supply.

A wide range of technological improvements over the last three years has contributed to

the sudden popularity of portable computers. Most important has been the development of clear alim-line screens to replace the bulky cathode ray tube (CRT) used in conventional desk-top terminals.

Gas plasma screens give the clearest display, orange on black, which is suitable for fine computer graphics work. Unfortunately, however, they consume too much electricity to run on batteries, so gas plasma screens are used only in the bigger, mains powered "transportable" computers.

Battery powered lap-tops have liquid crystal display (LCD) screens - generally blue on white. These are rapidly becoming more readable. The latest models are improved by back-lighting and their contrast is improved by rotating the panel units by more than the conventional 90 degrees (the jargon word for this effect is supertwist). But LCD still looks fuzziy than gas plasma or CRT.

Toshiba and some of its competitors are expected to launch lap-top computers with full col-

our LCD screens within two years. A full colour gas plasma display will take perhaps two to three years, according to Tetsuya Mizoguchi, technology executive in Toshiba's computer systems group.

The miniaturisation of electronic components has also been vital for the development of portable computers. The latest memory and processor chips are far smaller than their predecessors and use less electricity. In contrast to the rapid progress towards lower power consumption, however, there has been relatively little improvement in battery performance.

Today, Toshiba adds two new models to its range of IBM-compatible portable computers (after a three month delay caused by the world-wide shortage of memory chips).

At the top is the mains powered TS200, based on Intel's 80386 microprocessor running at 20 MHz (this means that the internal clock controlling the machine ticks 20m times a second). The TS200 has a gas plasma screen, an internal memory of two megabytes (MB) extendable to 8 MB and built-in hard disk storage capacity of either 40 MB or 100

MB. This combination of speed and memory should be powerful enough to run almost any software designed for desk-top personal computers.

The other new model, the T1600, has a liquid crystal display (LCD) and a slower microprocessor, the Intel 80C286, operating at 12 MHz. It can run on batteries for between one and six hours and, weighing 14 lbs, it could be used on a traveller's lap. However, the T1600 may soon face formidable competition from Compaq, which is expected to announce its first battery powered computer later this year.

Now that the portable computer market has taken off, many analysts expect it to maintain an annual growth rate of 50 per cent or more for several years. Toshiba predicts that a quarter of all personal computers sold in 1990 will be portable - and the company aims to hold on to at least 25 per cent of that market.

Toshiba is Japan's third largest and the world's tenth largest manufacturer of electronics and electrical products, according to Fortune magazine. Like the other big Japanese electronics companies, it is changing its global business strategy in response to the long-term appreciation of the yen and pressure from Europe and the US to reduce Japan's trade surplus.

Toshio Aoi, President of Toshiba, says: "We are shifting from the previous strategy of increasing exports from Japan to a strategy that promotes direct overseas investment and technology transfer." This involves setting up research, development and manufacturing facilities outside Japan.

Toshiba executives are planning expansion through what they call a Triad Network (presumably they are not trying to invoke the sinister image of the Chinese Triad gangs). The company's network will have three arms: Toshiba in Japan (responsible for Asia), Toshiba America and Toshiba Europe (based in Düsseldorf and also responsible for Africa and the Middle East).

However, compared with other Japanese companies like NEC, Fujitsu, Sony and Hitachi, it has been slow to develop business links with production facilities in Europe.

Toshiba makes videos and televisions in Plymouth, England, and copiers and microwave ovens in France, but says it has not yet decided when and where to manufacture computers in Europe. Meanwhile its arch rival Compaq continues to turn out portable computers at its Scottish plant near Glasgow.

Journeys mapped out on screen
THE BOSCH electrical group of West Germany is about to launch a vehicle navigation system called Travelpilot.

It will be introduced in Germany, the UK, France and Holland during the first six months of next year. The price in the UK will be about £1,500. Bosch has already won a contract from Heris, the car rental company, to equip some fleets.

Travelpilot provides the driver with a map on a 12 cm screen, which initially shows the whole route. The map zooms in on the remaining roads to be covered as the journey proceeds.

Two miles from the destination, streets are identified and, where the information is available, such problems as one way systems shown.

Maps will be held in digital form on CD-ROM (Compact Disc Read Only Memory). An optical disc more similar to CD music discs.

The driver plugs in a disc that covers the whole of the country - and enters start and destination points on a keyboard. His or her position is pin-pointed on the map as the journey proceeds (to a claimed accuracy of 30 yards to 100 miles). The direction of travel is ascertained and the map rotates slightly, although it can be fixed to a screen. The driver chooses the best route, but the driver can manually fix to see local detail.

Travelpilot is based on sensors, fitted to the wheels to measure distance, and an electronic compass. The two give a dead-reckoning system and Bosch says that cumulative error is corrected by reference to the internal map data.

The company believes Travelpilot's major advantage is that only on-board equipment is needed. It is not dependent on the build-up of an external infrastructure, such as roadside radio beacons.

The price of the disc has not been fixed yet, but is unlikely to be more than £50.

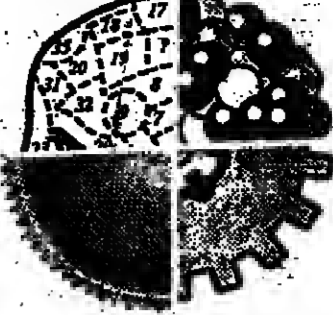
Tracking missiles in space
IN THE US, Hughes Aircraft has developed an infra-red sensing system which marks an important step towards detecting and tracking long range ballistic missiles in the

Strategic Defence Initiative (SDI)
It should be able to pin-point incoming missiles in the presence of decoys and against a background of stars and other infra-red radiation.

The system, which contains 36,000 infra-red detecting devices, has been delivered to Boeing Aerospace, prime contractor to the US Army for feasibility studies in the use of optical sensors to detect strategic missiles.

The array of sensors will be used in the focal plane of an optical telescope, with a pointing and stabilising system and digital signal processor. A wide field of view enables the system to scan considerable areas of space at long ranges.

Data coming out of the array calls for signal processing at rates of up to 1200 operations a second. This is said to be a thousand times greater than the previous best optical surveillance systems. The task is equivalent to reading the Encyclopaedia Britannica 13 times in one second.



WORTH WATCHING
Edited by
Geoffrey Charlish

Science and education.
The full results of the 1988 Home Survey are about to be published by Dataquest.

New pattern to laser engraving
ZED Instruments of Haslemere, Surrey, in the UK, has an improved laser engraving method that will speed up production of the flexographic printing plates widely used in wallpaper and textile printing plants. The better standard of printing could save the process into quality packaging markets.

The rubber printing rolls, sleeves and plates are often produced by laser engraving, but to get the pattern into the surface, an intermediate photographic film image has been used. The film image is scanned optically and the information used to drive a carbon dioxide laser engraving head.

ZED Instruments has developed a system in which a computer-aided design (CAD) computer is coupled straight into a cutting head powered by a carbon dioxide laser from Electron, part of the 900 Group.

Apart from saving time, the system yields better quality because there is no potentially degrading intermediate image and no problems with dust on the film.

An important advantage is that the CAD system can be remote from the production plant and the image sent over a phone line. Software for many popular CAD systems is available.

CONTACTS: Bosch: UK office, 0965 826288; Hughes Aircraft: US, (215) 589 7200; Dataquest: London office, 379 0257 or in the US on (408) 427 5000; ZED Instruments: UK, 0452 226977.

ENERGY BLUEPRINT

HELPING BUSINESS MAKE MORE OF ITS ENERGY

Hotel stores up benefits

Initially developed for use in the home, GEC Nightstor boilers that use low-cost night-time electricity are now benefiting a wide range of commercial premises.

These boilers first appeared some five years ago as a replacement for existing home central heating systems to meet a demand caused especially by the high cost and insecurity of oil supplies.

Success with domestic applications



led to the development of boilers in a range of sizes suitable for commercial use. Larger installations can be supplied by connecting boilers in tandem.

Premises switching to Nightstor from oil or solid fuel benefit from the cleanliness of electricity and the ending of fuel storage and delivery problems. The compact Nightstor unit can normally be accommodated within the premises, often in place of the previous boiler.

Typical of commercial users to benefit is The Nash Hotel on the edge of the South Downs at Steyning, West Sussex, where heating and hot water used to be supplied by an oil-fired boiler and two Aga cookers.

After advice from South Eastern Electricity, the hotel installed two Nightstor electric boilers for space heating with separate storage cylinders for hot water. It was a great improvement.

The Nightstor boilers, directly supplying the existing distribution pipework and radiators, have a core of special heat-retaining bricks in a well-insulated casing. Overnight the bricks are heated by electric elements passing through them. When heat is required, air is circulated over the bricks and through a heat exchanger, which transfers the heat to water serving the radiators.

So satisfied was the proprietor that she has now replaced the Aga cookers with an all-electric kitchen.

The electric boiler system has not only reduced heating costs but proved very reliable with no need for regular maintenance contracts, reduced space for a building extension and, not least, eliminated the smell of oil.

For more information tick coupon box 1.



Ice rink warms pool

Energy savings of £60,000 a year have been achieved from a heat recovery system installed at Thamesdown Borough Council's Link Centre at West Swindon, built two years ago to provide a comprehensive range of sporting and leisure facilities, from squash to snooker. The centre was awarded the 1987 national BETA trophy for energy efficiency in buildings over 1,000 square metres.

A competition-size ice rink at the centre is the main source of heat for the remainder of the complex. Heat recovered from the ice rink's refrigeration compressors is used to heat the water in the swimming pool and also for space heating and hot water services.

The swimming pool hall has two heat recovery dehumidifiers and the pool is equipped with ozone water treatment which eliminates eye irritation and the 'swimming pool smell' associated with

chlorine water treatment. Capital cost of the chillers, pumps and pipework for the ice rink heat recovery plant was some £39,000. Annual energy savings were originally estimated at £40,000 but in practice have been 50% higher than this.

For more information tick coupon box 3.

Spotlight on heat savings

Quartz linear heaters installed by Sunbury Metal Pressings Ltd of Southall, Middlesex, have proved the value of this new concept in space heating.

Unlike ordinary heaters, quartz linear heaters emit short wavelength energy in a 'spotlight' of instant heat, so energy is not wasted warming surrounding unused areas of a building.

When Sunbury Metal Pressings moved into adjacent premises, they originally intended to install gas-fired overhead fan heaters. The most economical and efficient solution, however, turned out to be 30kW of quartz linear heating - a third of the load required for a gas-fired warm air system.

With quartz linear, response is immediate and no pre-heating is needed. After a pre-set period, the nine individually controlled heaters switch to half-heating for maximum economy.

Quick to install, the system has improved the work environment and running cost savings are calculated to be around £1,000 per annum.

For more information tick coupon box 2.

Please send me leaflets/information on the following topics:
 Tick as appropriate: 1. Electric boilers, 2. Quartz linear heaters, 3. Electric heat recovery systems.

Name: _____
 Position: _____
 Company/Address: _____
 C/394 Postcode: _____

Please send the coupon to: Electricity Publications, PO Box 2, Central Way, Feltham, Middlesex TW14 0TG.

PLANELECTRIC
Energy for Life
The Electricity Council, England and Wales

CURRENCIES, MONEY AND CAPITAL MARKETS

FOREIGN EXCHANGES

Dollar moves slightly firmer

THE DOLLAR finished marginally firmer in currency markets yesterday, following better than expected current account figures for the second quarter. However, the extent of its improvement was limited, as investors were reluctant to open fresh positions before today's release of US trade figures for July.

Second quarter current account figures showed a deficit of \$33.3bn down from a revised first quarter shortfall of \$36.1bn. The first quarter had previously been reported as showing a \$39.5bn deficit. The dollar met resistance as it approached the DM1.8500 level, and dealers suggested that this was likely to hold until tomorrow's announcement. Most analysts are looking for a deficit in the region of \$11.5bn, compared with June's \$12.5bn shortfall. However, some traders suggested that unless the figure falls outside a \$10.5-12.5bn range, the dollar's response could be muted. The authorities are unlikely to want a sharply fluctuating dollar as the run-in to November's Presidential election gathers pace.

The dollar rose to DM1.8500 from DM1.8450 but eased slightly against the yen to ¥133.25 from ¥133.40. Elsewhere, it finished at SF1.5590 from SF1.5585 and FRF2.2925 compared with FRF2.2925.

£ IN NEW YORK

Table with 3 columns: Term, Bid, Ask. Rows for 3 months, 6 months, 12 months.

STERLING INDEX

Table with 2 columns: Index, Change. Rows for various currencies.

CURRENCY RATES

Table with 4 columns: Currency, Bid, Ask, % change. Rows for various currencies.

OTHER CURRENCIES

Table with 4 columns: Currency, Bid, Ask, % change. Rows for various currencies.

EXCHANGE CROSS RATES

Table with 4 columns: Currency, Bid, Ask, % change. Rows for various currencies.

FT LONDON INTERBANK FIXING

Table with 2 columns: Offer, Bid. Rows for 3 months, 6 months.

MONEY RATES

Table with 2 columns: Offer, Bid. Rows for 1 month, 3 months.

LONDON MONEY RATES

Table with 2 columns: Offer, Bid. Rows for 1 month, 3 months.

UK clearing bank lending rate

12 per cent from August 25 & 28

INTEREST RATES

mostly steady in London yesterday, with dealers adopting a wait-and-see attitude ahead of further economic data due this week.

The key three-month inter-bank rate finished unchanged at 12 1/4-12 1/2 p.c., having straddled the 12 p.c. level earlier at 12 1/4 p.c. Dealers took heart from sterling's lack of reaction to Monday retail sales figures, but warned of a possible build up of tension, as the release of UK August trade figures draws near. Some improvement is expected from July's recovery of \$2.15bn current account short-

note circulation of \$50m. In addition, banks brought forward balances \$30m above target.

The Bank revised its forecast to a surplus of around £100m, but did not intervene during the morning. In the afternoon, it sold \$70m Treasury bills at 10 p.c., maturing on Friday.

Short-term rates in Frankfurt continued to edge firmer, as banks sought funds to meet major corporate tax payments. Call money was quoted at 5 p.c., its effective ceiling, since at this rate, banks can borrow funds through their emergency Lombard facility.

Some assistance will be derived from yesterday's announcement by the Bundesbank, to hold another sale and repurchase tender. The 4.25 p.c. fixed rate, 95-day agreement will add liquidity to the market, coinciding with the maturity of a previous facility, which will drain DM4.1bn from the system.

Reserve holdings with the Bundesbank continued to contract, with Friday's total slipping to DM65.7bn from DM68.5bn on Thursday. However, the running average for the month is still above the expected minimum requirement.

fail. Before then, the market will have to digest figures on industrial production, inflation and money supply, any one of which could send the investor confidence and increase upward pressure on rates.

The Bank of England forecasts a surplus of £150m; with factors affecting the market including bills maturing in official hands and a take up of Treasury bills dragging 256m. These were more than offset by Exchequer transactions, which added £100m, and a fall in the

FINANCIAL FUTURES

Bonds trade in narrow range

US TREASURY bonds traded in a narrow range in yesterday's life market, as traders awaited the release today of US trade figures for July. Values finished the day marginally weaker, as sentiment was influenced by a recovery in crude oil prices. The December price opened at 88-03, which proved to be the

day's high, and touched a low of 87-23 before closing at 88-03, unchanged from the opening, but down from 88-07 on Monday.

UK long gilt futures barely managed to trade 10,000 lots in the December price. Investors were unwilling to take fresh positions until the release of economic data gives further guidance on the direction of the economy.

Institutions will be keen to see if the steady increase in domestic interest rates is succeeding in slowing down consumer demand. The December long gilt opened at 90-27 and touched a high of 90-31, before closing at 89-24, compared with 88-23 on Monday.

US TREASURY BOND FUTURES

Table with 4 columns: Price, Change, Bid, Ask. Rows for various terms.

UK LONG GILT FUTURES

Table with 4 columns: Price, Change, Bid, Ask. Rows for various terms.

EUROPEAN CURRENCY UNIT RATES

Table with 5 columns: Currency, Bid, Ask, % change, % change.

CHF SPOT - FORWARD AGAINST THE POUND

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE DOLLAR

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE MARK

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE FRANK

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE SWISS

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE JAPANESE

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE AUSTRALIAN

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE CANADIAN

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE NEW ZEALAND

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE SINGAPORE

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE HONG KONG

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE TAIWAN

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE SOUTH AFRICAN

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE INDIAN

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE MALAYSIAN

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE THAI

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE PHILIPPINE

Table with 4 columns: Term, Bid, Ask, % change.

CHF SPOT - FORWARD AGAINST THE SINGAPORE

Table with 4 columns: Term, Bid, Ask, % change.

EUROPEAN OPTIONS EXCHANGE

Table with 4 columns: Series, Bid, Ask, % change. Rows for various options.

CHICAGO

Table with 4 columns: Bid, Ask, % change. Rows for various options.

U.S. TREASURY BONDS

Table with 4 columns: Bid, Ask, % change. Rows for various options.

JAPANESE YEN

Table with 4 columns: Bid, Ask, % change. Rows for various options.

EUROPEAN MARK

Table with 4 columns: Bid, Ask, % change. Rows for various options.

U.S. TREASURY BILLS

Table with 4 columns: Bid, Ask, % change. Rows for various options.

THREE-MONTH EURO DOLLAR

Table with 4 columns: Bid, Ask, % change. Rows for various options.

STANDARD & POOR 500 INDEX

Table with 4 columns: Bid, Ask, % change. Rows for various options.

BASE LENDING RATES

Table with 3 columns: Bank, Rate, % change. Rows for various banks.

Financial Analysts Crossword



Clues Down
1. It's where the EFFAS Congress will be on September 20 to 23. (Hint: Swiss and International).

2. It's where you can see LOGIBANQUE, a unique exhibition of the world's top specialist computer systems for financial analysts all under one roof. (Hint: it's the same place as 1 Down).

Across
3. It's where you should be on September 20 to 23. (Hint: remind the board that, in today's markets, one cannot dare fall behind with current thinking and methods).

EFFAS/LOGIBANQUE
Geneva, September 20 to 23.
Ring (4122) 28 0884 for any information.

GRANVILLE SPONSORED SECURITIES

Table with 4 columns: High Low, Price, Change, Yield. Rows for various securities.

BALTIC PORTS

The Financial Times proposes to publish this survey on NOVEMBER 11th 1988. For a full editorial synopsis and advertisement details, please contact: Chris Schaninger on 01-248 8000 ext 3699 or write to him at: Bracken House 10 Cannon Street London EC4A 3DF

Notice to Noteholders

Prospect International High Income Portfolio N.V. Up to U.S. \$82,500,000 Senior Floating Rate Notes due 1998 (of which U.S. \$30,000,000 is being issued as the initial tranche). Notice is hereby given that the Interest Rate for the period from 7th September, 1988 to 14th October, 1988 is 3.7375%. The Floating Rate Note Interest Amount payable on 14th October 1988 is U.S. \$8.98 per U.S. \$1,000.

FINANCIAL TIMES

Member of the Stock Exchange & FSA

FT UNIT TRUST INFORMATION SERVICE

AUTHORISED UNIT TRUSTS

Table listing various unit trusts with columns for Name, Class, Price, and Yield. Includes sections for 'Allied Dunbar Unit Trusts', 'City Financial Services', and 'Royal Life Unit Trusts'.

I.G. INDEX LTD, 9-11 GROSVENOR GARDENS, LONDON SW8 0BD. Tel: 01-828 7233/5699. Reuters Code: IG1N, IG1O.

JOTTER PAD: A grid for writing answers to crossword clues.

CROSSWORD No. 6733 Set by QUARK

Crossword puzzle grid with numbers 1-28 indicating clue positions.

ACROSS clues: 1 He deals with the early deliveries (7.7), 2 Brief is contribution to bar-rister's evidence (5), 3 Mad about rising urge for gold pieces (7), 4 Can't move for the electric-ity (6), 5 One-time sea-rover losing right to make amends (7), 6 Requested to provide for guests? React with uncer-tainty (6), 7 Cook soup or ham (no par-ticular pattern) (9), 8 Tenner tip could be appropriate here (9), 9 Some well-made carriages in comeback went at speed (5), 10 One going up in soci-ety - such as Rose? (7), 11 Loud US place? Fud-dy-duddy seen there (7), 12 It's not ideal if temper is violent about first sign of clash (9), 13 1's essential to predict use-ful stroke (5), 14 But the grass should still be short here! (2,3,4,5), 15 DOWN: 1 One 29 would be near this (9), 2 Precise about English? That's relative (6), 3 Invite one to order such a state? (9), 4 Spruce necessitates rubbish collector with extremes of garbage (5).

Solution to Puzzle No. 6732: P O M A N O P I A T E, R O U N D A R V, I M P E T I G O U S A B L E, P L A Y D O W N, E V E R T I N G, B E A T I, R T E D R D E I, S A N S R E M E M B E R E D, S A R K S E R V S E, A N D O D V, C H O P P Y I G N I T I O N, E U I E O C I, M O R A L E A P P L A U S O, M I N I T I V P L A S H M A N.

GUIDE TO UNIT TRUST PRICING: Explains the methodology for unit trust pricing, including the use of the FT Unit Trust Information Service and the FT Unit Trust Index.

Handwritten signature or note at the bottom of the page.

FT UNIT TRUST INFORMATION SERVICE

Handwritten note in Arabic script: "معلوماتنا الأصل"

Main table containing unit trust information, including columns for company names, unit prices, and other financial data. The table is organized into sections such as 'INSURANCES' and 'OTHER UK UNIT TRUSTS'.

INSURANCES

Sub-table under 'INSURANCES' listing various insurance-related unit trusts and their details.

OTHER UK UNIT TRUSTS

Sub-table under 'OTHER UK UNIT TRUSTS' listing other types of unit trusts and their details.

Continued on next page

FT UNIT TRUST INFORMATION SERVICE

Main table containing FT Unit Trust Information Service data, organized into columns for various fund categories and providers. Includes sub-sections like 'MANAGEMENT SERVICES', 'OFFSHORE AND OVERSEAS', and 'UK LISTED'.

Handwritten note in Arabic script: "معلوماتنا الخاصة"

FT UNIT TRUST INFORMATION SERVICE

LONDON SHARE SERVICE

Handwritten note: "لنا من الاجل"

Table of FT Unit Trust Information Service, listing various unit trusts with columns for Name, Price, and Yield.

Table of Other Offshore Funds, listing various offshore investment funds with columns for Name, Price, and Yield.

Table of London Share Service, including sections for British Funds, Foreign Bonds & Rails, and Americans, with columns for Name, Price, and Yield.

Table of Money Market Trust Funds, listing various money market funds with columns for Name, Price, and Yield.

Table of Money Market Bank Accounts, listing various bank accounts with columns for Name, Price, and Yield.

Money Market Bank Accounts section containing additional details and notes.

LONDON SHARE SERVICE

AMERICANS - Contd

Table listing American companies such as Time Inc., Transamerica, and US Steel, with columns for stock price, bid, offer, and volume.

BANKS, HP & LEASING

Table listing financial institutions and leasing companies like Citicorp, Citicredit, and Finance Trust.

BEERS, WINES & SPIRITS

Table listing beverage companies including Anheuser-Busch, Heineken, and Carlsberg.

BUILDING, TIMBER, ROADS

Table listing construction and infrastructure companies like Bechtel, Fluor, and Parsons.

BUILDING, TIMBER, ROADS

Table listing construction and infrastructure companies like Bechtel, Fluor, and Parsons.

CHEMICALS, PLASTICS

Table listing chemical and plastic companies such as Dow Chemical, DuPont, and Eastman.

DRAPERY AND STORES

Table listing retail and clothing companies like J. J. Child, J. P. Morgan, and J. S. Morgan.

BUILDING, TIMBER, ROADS

Table listing construction and infrastructure companies like Bechtel, Fluor, and Parsons.

ELECTRICALS

Table listing electrical and utility companies such as British Telecom, British Gas, and British Nuclear.

ENGINEERING - Contd

Table listing engineering and technology companies like British Aerospace, British Shipbuilders, and British Steel.

ENGINEERING

Table listing engineering and technology companies like British Aerospace, British Shipbuilders, and British Steel.

ENGINEERING

Table listing engineering and technology companies like British Aerospace, British Shipbuilders, and British Steel.

ENGINEERING - Contd

Table listing engineering and technology companies like British Aerospace, British Shipbuilders, and British Steel.

FOOD, GROCERIES, ETC

Table listing food and grocery companies such as Borden, Bunn, and Confectionery.

HOTELS AND CATERERS

Table listing hotel and catering companies like Holiday Inns, Hilton, and Intercontinental.

INDUSTRIALS (Miscel.)

Table listing various industrial companies across different sectors.

INDUSTRIALS (Miscel.) - Contd

Table listing various industrial companies across different sectors.

INDUSTRIALS (Miscel.) - Contd

Table listing various industrial companies across different sectors.

INDUSTRIALS (Miscel.) - Contd

Table listing various industrial companies across different sectors.

INDUSTRIALS (Miscel.) - Contd

Table listing various industrial companies across different sectors.

INDUSTRIALS (Miscel.) - Contd

Table listing various industrial companies across different sectors.

INSURANCES

Table listing insurance companies like Axa, Allianz, and Aviva.

LEISURE

Table listing leisure and entertainment companies like British Skyways, British Telecom, and British Nuclear.

LEISURE

Table listing leisure and entertainment companies like British Skyways, British Telecom, and British Nuclear.

Handwritten note in Arabic script: "تدقيق الحسابات"

Handwritten text in a box at the top center of the page.

LONDON SHARE SERVICE

LEISURE - Contd

Table listing shares in the Leisure sector, including company names, prices, and changes.

PROPERTY

Table listing shares in the Property sector, including company names, prices, and changes.

TEXTILES - Contd

Table listing shares in the Textiles sector, including company names, prices, and changes.

TRUSTS, FINANCE, LAND - Contd

Table listing shares in the Trusts, Finance, and Land sectors, including company names, prices, and changes.

OIL AND GAS - Contd

Table listing shares in the Oil and Gas sector, including company names, prices, and changes.

MINES - Contd

Table listing shares in the Mines sector, including company names, prices, and changes.

MOTORS, AIRCRAFT TRADES

Table listing shares in the Motors and Aircraft Trades sectors, including company names, prices, and changes.

TOBACCO

Table listing shares in the Tobacco sector, including company names, prices, and changes.

TRUSTS, FINANCE, LAND

Table listing shares in the Trusts, Finance, and Land sectors, including company names, prices, and changes.

OVERSEAS TRADERS

Table listing shares in the Overseas Traders sector, including company names, prices, and changes.

PLANTATIONS

Table listing shares in the Plantations sector, including company names, prices, and changes.

MISCELLANEOUS

Table listing miscellaneous shares, including company names, prices, and changes.

Commercial Vehicles

Table listing shares in the Commercial Vehicles sector, including company names, prices, and changes.

Investment Trusts

Table listing shares in the Investment Trusts sector, including company names, prices, and changes.

Finance, Land, etc

Table listing shares in the Finance, Land, and other sectors, including company names, prices, and changes.

Teas

Table listing shares in the Teas sector, including company names, prices, and changes.

MINES

Table listing shares in the Mines sector, including company names, prices, and changes.

THIRD MARKET

Table listing shares in the Third Market, including company names, prices, and changes.

Garages and Distributors

Table listing shares in the Garages and Distributors sector, including company names, prices, and changes.

Finance, Land, etc

Table listing shares in the Finance, Land, and other sectors, including company names, prices, and changes.

Teas

Table listing shares in the Teas sector, including company names, prices, and changes.

MINES

Table listing shares in the Mines sector, including company names, prices, and changes.

Far West Rand

Table listing shares in the Far West Rand sector, including company names, prices, and changes.

NOTES

Notes providing additional information and explanations for the share listings.

NEWSPAPERS, PUBLISHERS

Table listing shares in the Newspapers and Publishers sector, including company names, prices, and changes.

Finance, Land, etc

Table listing shares in the Finance, Land, and other sectors, including company names, prices, and changes.

Teas

Table listing shares in the Teas sector, including company names, prices, and changes.

MINES

Table listing shares in the Mines sector, including company names, prices, and changes.

Diamond and Platinum

Table listing shares in the Diamond and Platinum sector, including company names, prices, and changes.

Central African

Table listing shares in the Central African sector, including company names, prices, and changes.

PAPER, PRINTING, ADVERTISING

Table listing shares in the Paper, Printing, and Advertising sectors, including company names, prices, and changes.

Shipping

Table listing shares in the Shipping sector, including company names, prices, and changes.

Finance, Land, etc

Table listing shares in the Finance, Land, and other sectors, including company names, prices, and changes.

OIL AND GAS

Table listing shares in the Oil and Gas sector, including company names, prices, and changes.

Finance

Table listing shares in the Finance sector, including company names, prices, and changes.

Australians

Table listing shares in the Australians sector, including company names, prices, and changes.

SHOES AND LEATHER

Table listing shares in the Shoes and Leather sector, including company names, prices, and changes.

Shipping

Table listing shares in the Shipping sector, including company names, prices, and changes.

Finance, Land, etc

Table listing shares in the Finance, Land, and other sectors, including company names, prices, and changes.

OIL AND GAS

Table listing shares in the Oil and Gas sector, including company names, prices, and changes.

Finance

Table listing shares in the Finance sector, including company names, prices, and changes.

Australians

Table listing shares in the Australians sector, including company names, prices, and changes.

SOUTH AFRICANS

Table listing shares in the South Africans sector, including company names, prices, and changes.

Shipping

Table listing shares in the Shipping sector, including company names, prices, and changes.

Finance, Land, etc

Table listing shares in the Finance, Land, and other sectors, including company names, prices, and changes.

OIL AND GAS

Table listing shares in the Oil and Gas sector, including company names, prices, and changes.

Finance

Table listing shares in the Finance sector, including company names, prices, and changes.

Australians

Table listing shares in the Australians sector, including company names, prices, and changes.

TEXTILES

Table listing shares in the Textiles sector, including company names, prices, and changes.

Shipping

Table listing shares in the Shipping sector, including company names, prices, and changes.

Finance, Land, etc

Table listing shares in the Finance, Land, and other sectors, including company names, prices, and changes.

OIL AND GAS

Table listing shares in the Oil and Gas sector, including company names, prices, and changes.

Finance

Table listing shares in the Finance sector, including company names, prices, and changes.

Australians

Table listing shares in the Australians sector, including company names, prices, and changes.

Regional and Irish Stocks section with various sub-sections and notes.

REGIONAL & IRISH STOCKS

Traditional Options

Traditional Options

Traditional Options

Traditional Options

Traditional Options

LONDON STOCK EXCHANGE

FT-ACTUARIES SHARE INDICES

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

Table with columns: EQUITY GROUPS & SUB-SECTIONS, Tuesday September 13 1988, Mon Sep 12, Fri Sep 9, Thu Sep 8, Year ago (approx). Rows include CAPITAL GOODS, BUILDING MATERIALS, CONTRACTING, etc.

Table with columns: FIXED INTEREST, AVERAGE GROSS REDEMPTION YIELDS, PRICE INICES. Rows include British Government, 5 years, 10 years, etc.

RISES AND FALLS YESTERDAY

Table with columns: Rises, Falls, Same. Rows include British Funds, Corporations, Domestic and Foreign Bonds, etc.

LONDON RECENT ISSUES

Table with columns: Issue, Amount, Latest, 1988, Closing Price. Rows include A.C. Ridge, British Group, etc.

FIXED INTEREST STOCKS

Table with columns: Issue, Amount, Latest, 1988, Closing Price. Rows include A.C. Ridge, British Group, etc.

RIGHTS OFFERS

Table with columns: Issue, Amount, Latest, 1988, Closing Price. Rows include A.C. Ridge, British Group, etc.

TRADITIONAL OPTIONS

Table with columns: Issue, Amount, Latest, 1988, Closing Price. Rows include A.C. Ridge, British Group, etc.

LONDON TRADED OPTIONS

Large table with columns: Option, CALLS, PUTS, Puts. Rows include Allied Lysol, B.P., etc.

NOTICE OF EARLY REDEMPTION

North American Philips Corporation

NOTICE IS HEREBY GIVEN that, pursuant to the Fiscal and Paying Agency Agreement dated as of October 15, 1984 between North American Philips Corporation (the "Company") and Morgan Guaranty Trust Company of New York, as Fiscal and Paying Agent, under which the Company issued its 12 1/2% Notes due October 1991 (the "Notes")...

PAYING AGENTS

- Morgan Guaranty Trust Company of New York, 30 West Broadway, New York, New York 10015. J.P. Morgan Nederland N.V., 12 Tusselschodestraat, 1054 ET Amsterdam, The Netherlands.

NORTH AMERICAN PHILIPS CORPORATION

Dated: September 14, 1988

Under the Interest and Dividend Tax Compliance Act of 1983, we may be required to withhold 20% of any gross payments made within the United States to certain holders who fail to provide us with, and certify under penalties of perjury, a correct taxpayer identifying number...

CHINA

The Financial Times proposes to publish this survey on: 12th December 1988. For a full editorial synopsis and advertisement details, please contact: Simon Timms on 01-248 8000 ext 3276 or write to him at: Bracken House 10 Cannon Street London EC4P 4BY

FINANCIAL TIMES GROUP'S BUSINESS NEWS

NOTICE TO HOLDERS OF Lorimar Telepictures Corporation

Lorimar Telepictures Corporation ("Lorimar") has entered into an Agreement and Plan of Merger dated as of July 18, 1988 (the "Merger Agreement") with Warner Communications Inc. ("Warner") and L.T.C. Acquisition Corp., a wholly owned subsidiary of Warner ("Merger Sub")...

NOTICE TO THE WARRANTHOLDERS OF TOBU RAILWAY CO., LTD

U.S.S. 100,000,000 1 1/4% Guaranteed Notes 1982 with Warrants (the "Warrants of 1982") and U.S.S. 200,000,000 4 1/4% Notes 1983 with Warrants (the "Warrants of 1983") to subscribe for shares of common stock of the Company.

1. The Board of Directors of the Company authorized on 7th September, 1988 a new distribution of shares at the rate of ten (10) new shares for each one hundred (100) shares held at the close of business on 30th September, 1988, Japan time.

(1) For the Subscription Price of the Warrants of 1982 the Subscription Price will be reduced from the current 1,210 yen per share to 1,100.00 yen per share.

SEOUL OLYMPIC SPORTS PRICES ON REUTERS GAME SSP OVERSEAS BETTING

J.W. WASSALL P.L.C. following the adoption of proposals in connection with Admission to the Official List including: The Acquisition of Evertaut Contracts Limited and A. S. Toone & Sons Limited. *A 7 for 1 Rights Issue of 10,920,000 new Ordinary shares at 125p per share.

BANK OF TOKYO, LTD. NOTICE TO THE HOLDERS OF EQUITY & GENERAL PLC. The Financial Services and Motor Distribution Group. INTERIM STATEMENT FOR HALF YEAR TO JUNE 30TH 1988.

LONDON STOCK EXCHANGE

Buoyant oils lead market advance

The London equity market took a more positive step forward yesterday, posting strong gains across the board after a market improvement in sentiment and turnover. Government bonds, despite closing with only minor gains, also had a confident look.

The FT-SE 100-share index closed 11.7 higher at 1786.3, having been up 17.2 in mid-morning. Equities, building on Monday's resolute showing, opened firmly and were already showing signs of moving ahead when it became evident that a market "edge" on independent oil group LASMO was taking place.

Account Dealing Dates table with columns for Date, Day, and Month.

market, including numerous bid rumours and a long list of major company news items. In the former category leading retailer Sears were prominent while Delta were put up as a possible bid target for RTZ.

But there was a bout of nervous selling throughout the market just before the close of trading when whispers were heard that yet another sizeable rights issue is imminent. The lack of any shortage of scullion candidates to raise money in the market. Standard Chartered was labelled the favourite, having stated its intention to make a major issue this autumn.

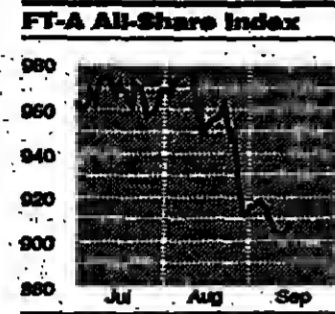
At issue was the effect of the supply of computer memory chips on Amstrad's sales forecasts, with analysts agreeing that a loosening of the continuing supply problems would allow Amstrad to increase its sales beyond current projections, a view which led to the afternoon rally.

FINANCIAL TIMES STOCK INDICES table with columns for Sep 13, Sep 12, Sep 9, Sep 8, Sep 7, Year Ago, High, Low, and Since Completion.

S.E. ACTIVITY Indices table with columns for Sep 12 and Sep 9, listing various indices like Gilt Edged Bargains, Equity Bargains, etc.

Gas raid on Lasmo splutters

BRITISH GAS gave a glow to early equity trading, sending brokers Hoare Govett into the market to try to purchase 14.75 per cent heavily 2m shares of independent oil group LASMO at 480p a share.



date scheduled for the next session. Soon afterwards frenetic activity developed, not only in the shares of LASMO, but also in Enterprise where the former holds 25.4 per cent and ICI 25 per cent. Speculation immediately went the rounds that Gas, after being rebuffed earlier this year by LASMO, was endeavouring to build a platform for a full-scale takeover.

Sears bid denial While the stores sector slumbered yesterday Sears were again worth a close inspection as 7.1m shares changed hands. Sears has been heavily tipped as a potential takeover target in recent months and the latest subject of discussion among "informed circles" was a story that yesterday Hanson Trust informally told the Sears management that it was preparing a bid for the group.

Oils leap forward The recovery in crude prices worldwide and calls for Opec output restraint gave the oil sector further cause to advance broadly. The oil price bounce owed a great deal to traders covering short positions in an oversold market after reports that key producer Saudi Arabia denied that it was opposed to an early meeting of the oil producing group.

BAe tailspin First-half profits some 34 per cent higher at 595m, compared with 471m, from British Aerospace failed to sustain the shares. Although the figure was nearer the top end of forecasts ranging from 580m to 610m, the market appeared to be worried still about losses on the civil aircraft side.

ICI rose 12 to 1018p, after 1029p, as dealers calculated that its 25 per cent holding of Enterprise Oil was worth as much as 59p per share. A presentation in Tokyo was judged to have gone well, while dealers also noted US interest. Amersham International continued to lose its way, down 17 to 532p. Analysts said they were not sure whether the shares were looking cheap, although the likelihood of a takeover attempt remains strong.

Amstrad had a roller-coaster day, rising in advance of yesterday's product launch, falling after the announcement by Mr Alan Sugar and then rising again as analysts interpreted the chairman's remarks. In turnover of 7.8m, the shares ended 1 down at 202p.

Boots, the high street chemist, traded relatively briskly with the shares closing 3 to the good at 203p in a volume of some 2m. Following a lunch with the company yesterday, Hoare Govett (HG) moved its recommendation for the group from hold to buy. HG's analysts reckon Boots' operating margins have improved by a full percentage point. On this basis they are increasing their full year pre-tax profits forecast by 51m to 270m and earnings per share from 18.9p to 20p.

Interlink Express dipped 15 to 315p following the half-year results, but contract news prompted a gain of 5 to 255p in Portals. Rank Organisation, a poor market of late, staged a useful revival, closing 6 to the good at 632p, after 635p. Volume in Rolls-Royce expanded to some 3.8m with the shares closing 1 1/2 better at 132 1/2p as Morgan Grenfell (MG), the securities house, suggested switching from British Aerospace into the former. MG says Rolls-Royce has exposure to the big defence contracts which are also such a positive for BAE, but is not linked to Rover or Airbus. The choice is really between the immense potential of BAE, real-

TRADING VOLUME IN MAJOR STOCKS

Table listing trading volume in major stocks with columns for Stock, Volume, and Price.

using hopes. Consolidated Gold Fields edged up 6 to 1016p after the 23.7 per cent rise in preliminary profits was tagged "satisfactory" by dealers. An unexpected dawn raid on Lasmo in the equities market stimulated heavy activity in Traded Options yesterday. By the close 31,444 calls and 14,089 puts had been traded, totalling 45,533 contracts on the day. Predictably Lasmo topped the table as 6,599 calls and 1,153 puts were reported in a hectic session. BP, with 4,163 contracts, and Trusthouse Forte with 3,530 contracts were also popular. Other market statistics, including FT-Actuaries Share Index and London Traded Options, Page 40

NEW HIGHS AND LOWS FOR 1988

Table listing new highs and lows for 1988 with columns for Stock, High, and Low.

APPOINTMENTS

Mr Jeremy Simpson and Mr Malcolm Wallis have been appointed joint deputy managing directors of ST JAMES CORPORATE COMMUNICATIONS.

BRITISH GAS operations director

Mr Bernard Heywood has been appointed HQ director (operations), production and supply division, at BRITISH GAS headquarters in London. In addition to his duties associated with the operation of the national transmission system, he will also play a major role in helping to formulate and implement engineering policy throughout the company.

Mr Michael Baylis has been appointed managing director of the MOTOR ACTIONS GROUP, a subsidiary of Mercantile Services, the automotive and engineering division of Mercantile Group. He was previously group operations director.

Mr W. Kenneth Mansfield has retired from BANCO HISPANO AMERICANO. He is succeeded as managing director by Mr Francisco Roche.

THE SAVOY MANAGEMENT, a subsidiary of the Savoy Hotel, has appointed Mr Adam Faith, Mr Anton Seidelmann, maître chef des cuisines and Mr Peter Bains, sales and marketing director, directors.

BURNBYAT, a ship supplier and marine exporter, has appointed Mr Alan Price-Davies as director of sales and marketing.

Mr Colin Kerr, senior partner at EDWARD ERDMAN, is to retire at the end of December. He will remain a partner. Mr Ron Presley, chief executive, will be his successor. Mr Charles Lee, in addition to his current responsibilities, has been appointed chairman. The post of chief executive will be filled by Mr David Allen, who will be responsible for the day-to-day management of the firm, along with his existing business commitments.

Advertisement for PERSONAL COMPUTER SHOW 14-18 SEPTEMBER 1988 EARLS COURT LONDON. Includes text about business solutions, complimentary tickets, and admission details.

COMMODITIES AND AGRICULTURE

S Africa cuts strategic oil stockpile, says monitor

By Peter Montagnon, World Trade Editor
SOUTH AFRICA has sharply run down its strategic stockpile of oil, to release foreign exchange to meet debt-service and other balance-of-payments requirements, a leading independent monitor of the country's oil supplies said.

KL cocoa futures upset Malaysians

By Wong Sulong, in Kuala Lumpur
MALAYSIAN COCOA traders are disappointed that the cocoa futures contract launched on the Kuala Lumpur Commodity Exchange five weeks ago has fallen into the doldrums.

Grain futures markets recover in Chicago

CHICAGO'S GRAIN futures markets recovered yesterday after opening with price falls in early trading following Monday's release of the US Department of Agriculture's latest assessment of the US grain crop.

Traders rein in, seeking right trail

Deborah Hargreaves on the US drought's effect on the cattle market
AS CATTLEMEN start counting the cost of the US drought this year, Chicago's cattle futures market remains choppy in a bid to find a clear direction.

UK farm minister says world trade reform unlikely without conciliation

By Bridget Bloom, Agriculture Correspondent
THERE COULD be little hope for reform of international trade in agriculture unless the European Community, the US and Japan all took a more conciliatory attitude to the talks under way in the General Agreement on Tariffs and Trade.

WORLD COMMODITIES PRICES

Table with multiple columns listing prices for various commodities like metals, oil, and grains. Includes sub-sections for LONDON METAL EXCHANGE, COCAOA, and SUGAR.

WEEKLY METALS PRICES

Table listing weekly prices for various metals including Antimony, Bismuth, Cadmium, and Selenium.

LONDON MARKETS

COFFEE prices fell yesterday following reports of rain in southern Brazil. Although the coffee growing areas have remained dry, dealers are predicting steep price declines if there is significant rainfall.

Table listing prices for various commodities in London markets, including COCAOA, COFFEE, and SUGAR.

US MARKETS

LOCAL shortcovering activity firmed up the precious metals markets, reports Drexel Burnham Lambert. Gold, silver and platinum posted slight gains in low-volume trading.

Milk marketing boards order test-tube calf embryos

By Bridget Bloom
BRITAIN'S MILK marketing boards yesterday ordered 10,000 test-tube-produced, twin-calf embryos as part of an experimental programme aimed at producing such embryos for commercial sale to farmers.

Chicago

Table listing prices for various commodities in Chicago, including COCAOA, COFFEE, and SUGAR.

NEW YORK

Table listing prices for various commodities in New York, including GOLD and SILVER.

WHEAT

Table listing prices for various types of wheat, including SOYABEANS and WHEAT.



WORLD STOCK MARKETS

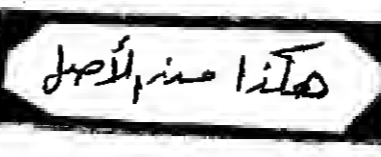


Table of stock market data for various countries including Austria, France, Germany, Netherlands, and Switzerland. Columns include stock names, prices, and changes.

CANADA

Table of Canadian stock market data, including Toronto 2pm prices for September 13. Lists various stocks and their performance.

JAPAN

Table of Japanese stock market data for September 13, listing various companies and their stock prices.

OVER-THE-COUNTER

Table of over-the-counter stock market data, including Nasdaq national market 3pm prices for September 13. Lists various stocks and their prices.

INDICES

Table of various stock indices including Dow Jones, Nikkei, and others, showing values and changes.

TOKYO / Most Active Stocks

Table of most active stocks in Tokyo for Tuesday, September 13, 1988. Lists stock names, prices, and changes.

Have your F.T. hand delivered in Belgium. Briefed and alert to all the issues that influence or affect your market and your business.

12 ISSUES FREE. Brussels (02) 5132816. And ask for details.

Have your F.T. hand delivered in Norway. Briefed and alert to all the issues that influence or affect your market and your business.

12 ISSUES FREE. Oslo (02) 684020. And ask Heidi Aastorp at Narvesen Info Centre-NIC for details.

Advertisement for 'Travelling on Business?' featuring Financial Times and a complimentary copy offer.

Small text at the bottom of the page, likely a disclaimer or publication information.

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

Table of stock prices with columns for 12 Month High, Low, Stock, Div. Yld., P/E, Bid, Ask, and Change. Includes various stock tickers and their corresponding market data.

Continued on Page 45

July 1988

NYSE COMPOSITE PRICES

Table of NYSE Composite Prices listing various stocks with columns for High, Low, and Close prices.

AMEX COMPOSITE PRICES

Table of AMEX Composite Prices listing various stocks with columns for High, Low, and Close prices.

OVER-THE-COUNTER Nasdaq national market, 3pm prices September 13

Table of Over-the-Counter prices listing various stocks with columns for High, Low, and Close prices.

Advertisement for 'Have your F.T. hand delivered in Germany' and 'Have your F.T. hand delivered...' with contact information for Frankfurt and Milano.

AMERICA

Dow edges higher in wait for July's trade figures

Wall Street
EQUITIES and bonds both moved modestly higher yesterday but the mood was cautious in advance of today's US trade figures for July, writes Janet Bush in New York.

Both equity and bond markets are suffering from a lack of direction amid uncertainty about the domestic economy and policy abroad.

each common share. The announcement followed news that Mr Herbert Haft, Dart Group chairman, has received federal clearance to build up a stake in the company.

Holiday season squeezes French turnover

France was the worst hit stock market last month as European trading dwindled at the height of the holiday season and fears of higher interest rates encouraged investors to steer clear of equities.

Alison Maitland reports on why most European bourses recorded shrinking volumes last month

Table with 7 columns: Source, Aug '88, July '88, June '88, May '88, April '88, 1st qtr '88 monthly av. Rows include Belgium, France, Germany, Italy, Netherlands, Spain, Switzerland.

market sank into the doldrums amid anxiety over inflation and interest rates and a shortage of corporate news.

utility stocks and speculation about stake-building in holding company Tractebel.

The Dutch market saw turnover rise by 5 per cent to Fl 11.5bn after showing the smallest fall in July of all the bourses covered.

tion of the healthy corporate news that buoyed the market in July.
"Earnings were phenomenally good for a country with the low economic growth of Holland," said one analyst.

ASIA PACIFIC

Nikkei posts small gains despite profit-taking burst

Tokyo
TRADING started on a strong note yesterday but soon fizzled out to leave equities only modestly higher at the close.

tries advanced Y22 to Y821. The shift in demand later in the day towards blue chips such as Matsushita and Sony was described by an analyst as "window-dressing" by securities firms before their settlement of accounts this month.

Roundup
TURNOVER remained pitifully low in Asia Pacific markets, though share prices in Australia, Hong Kong and Taiwan all made up some lost ground.

EUROPE

Germany hits 1988 high as optimism grows
HEALTHIER volumes and bullish prices produced a colourful picture in Europe yesterday, with Frankfurt at a year's high and Paris revived by speculative trading.

aim of increasing its LVME stake from the present 20 per cent to consolidate its position before next Thursday's LVME shareholder meeting.

London
CONFIDENCE continued to grow in London as share prices rose, adding to Monday's gains, and turnover improved.

speculation that there might be a restructuring of the group's Petrofina, the oil group, picked up BF100 to BF12.925 after touching BF12.900 as 11,000 shares changed hands.

on its BF150 rise on Monday. Petrofina, the oil group, picked up BF100 to BF12.925 after touching BF12.900 as 11,000 shares changed hands.

FT-ACTUARIES WORLD INDICES

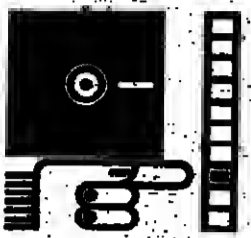
Table with 4 columns: NATIONAL AND REGIONAL MARKETS, TUESDAY SEPTEMBER 13 1988, MONDAY SEPTEMBER 12 1988, DOLLAR INDEX. Rows include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Korea, Malaysia, Mexico, Netherlands, New Zealand, Norway, Singapore, South Africa, Spain, Sweden, Switzerland, United Kingdom, USA, Europe, Pacific Basin, Euro-Pacific, North America, Europe Ex UK, Pacific Ex Japan, World Ex US, World Ex UK, World Ex So. Af., World Ex Japan, World Index.

Advertisement for Chiquita bananas. Text: 'We've got news for Europe that's too big to keep under our hat.' Includes image of a woman holding a basket of bananas and the Chiquita logo.

Handwritten Arabic text: 'مكتبة ابن النجار'

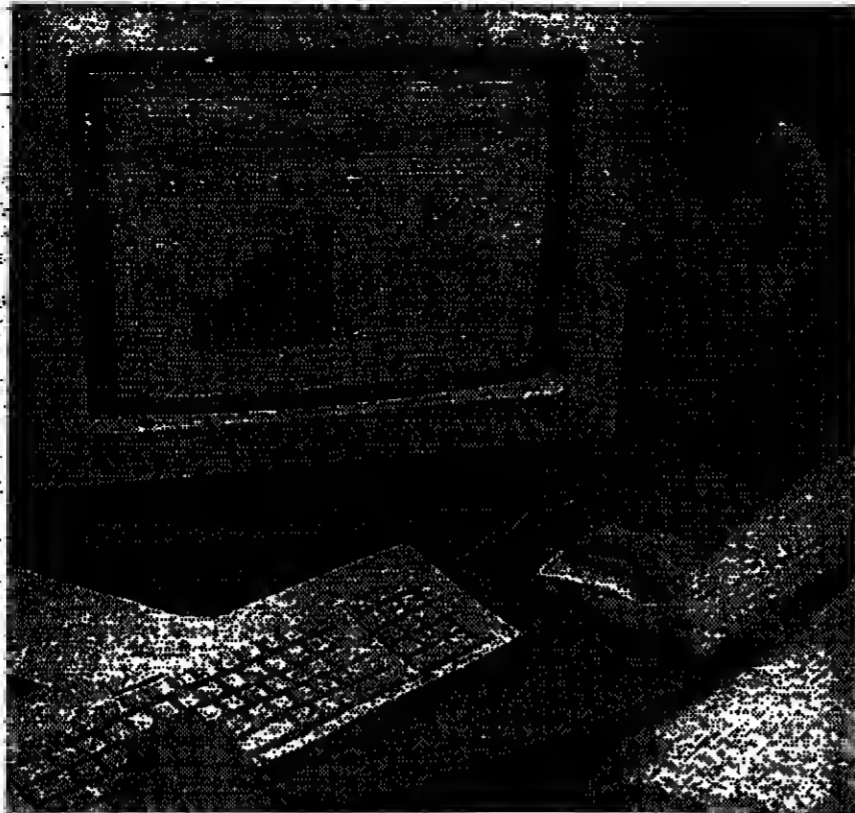
SECTION III

FINANCIAL TIMES SURVEY



Growth rates for the personal computer and software industries have exceeded the

expectations of market analysts in the last three years. However, manufacturers in the sector are facing some significant questions, as Alan Cane explains here.



ABOVE, centre: Mr William Gates, chairman of Microsoft, and one of the most influential figures in the personal computer business, says the market is now in exceptionally good health. Also pictured: work underway in computer graphics on an Apple Macintosh computer (right) and on an IBM Personal System/2, (left).

Competition intensifies

THE PERSONAL computer industry is in transition. Some would argue that the changes now taking place are close to the final stages in the evolution of the personal computer as it takes its rightful place in the hierarchy of data processing machinery.

"look and feel" of its innovative graphical human interface in the courts? Controversies like these apart, the market is in rude good health. Mr William Gates, chairman of Microsoft and one of the most influential figures in the personal computer business says: "The main thing that is happening is that personal computers are selling super well. It is hard to explain why the market is so healthy, but for the past three years, growth rates have exceeded our expectations. The majority of that business today is MS/DOS machines, 80286-based machines and, increasingly, 80386 machines."

Developed by Microsoft eight years ago, its became the industry standard after its adoption by IBM for its first generation personal computers, the PC, PC-XT and PC-AT. It proved a unifying force in the industry, the only real alternative being Apple Computer with its entirely different Macintosh technology. IBM computers and IBM plug-compatible machines, which run the same software as IBM even if their internal circuitry is not identical, use microprocessor chips from the US semiconductor manufacturer Intel. The most advanced of these is the 80386 which can run at a speed of 25 megahertz - its internal clock ticks 25m times every second. Apple, Macintosh computers, however, use microprocessors from another US semiconductor manufacturer,

Motorola. All of these chips process bits of information 32 at a time, like mainframe computers. A year ago, IBM launched its PS/2 family of personal computers, a new design incorporating a feature called Micro Channel Architecture, (MCA). Ostensibly, a mechanism for moving data more efficiently through the computer, and hence improving performance, MCA also made it difficult for IBM's competitors to copy the design, something that had proved to be child's play with the original PC.

IBM does nothing to help. You are on your own," he said. Apricot, in fact, used a set of chips that emulate MCA, designed and fabricated by Chips & Technologies, a Silicon Valley semiconductor manufacturer. Along with PS/2 and its innovative MCA design came OS/2, written as a joint effort by Microsoft and IBM and one of the most complex computer operating systems ever devised. Compared to the limited functions of MS/DOS, OS/2 can address (talk directly to) four gigabytes (32 billion bits) of memory, opening the way to massive performance improvements.

Nevertheless, the introduction of PS/2 and OS/2 gave the market a problem. In companies large and small, computers running MS/DOS (now identified as industry standard architecture or ISA computers had become the norm - masses of software, including such industry favourites as the best-selling spreadsheet of all time, 1-2-3, and the filing program Dbase II ran under MS/DOS. Many businesses were still coming to terms with the implications of personal computers as executive workstations.

There was no great market pull for a new design of computer or a new operating system and this was reflected in a comparatively sluggish migration to the new design. IBM's tougher competitors, like Compaq which is now statching a powerful share of the corporate market, proclaimed the value of ISA.

Mr Gates, who of course wins whether or not OS/2 becomes the new standard, admitted as much recently when he told an audience in London that MS/DOS would be around "indefinitely."

On top of that, a world shortage of computer storage, of high performance memory chips, has caused problems for many manufacturers just when the personal computer market was bounding back after some years of retrenchment.

Figures from Dataquest, the US-based market research firm, bear out Mr Gates' optimism. They show that the US personal computer market grew from \$20.4bn in 1987 to an estimated \$28bn this year and is expected to touch \$38bn by 1992.

In Europe, Dataquest's subsidiary Intelligent Electronics reports that the market grew by 66 per cent in unit terms in 1987 compared with 1986 and by the same per cent in value. Intelligent Electronics points out, however, "This high value growth reflects in part the weakness of US currency against all the European currencies during 1987. A trust figure in local values is in the order of 35 per cent."

Mr Roger Foster, Apricot Computers in the UK was one of the first to take advantage of IBM's licensing arrangement producing earlier this month its Q1 range of machines, claiming the performance of a high powered workstation for the price of a conventional PC.

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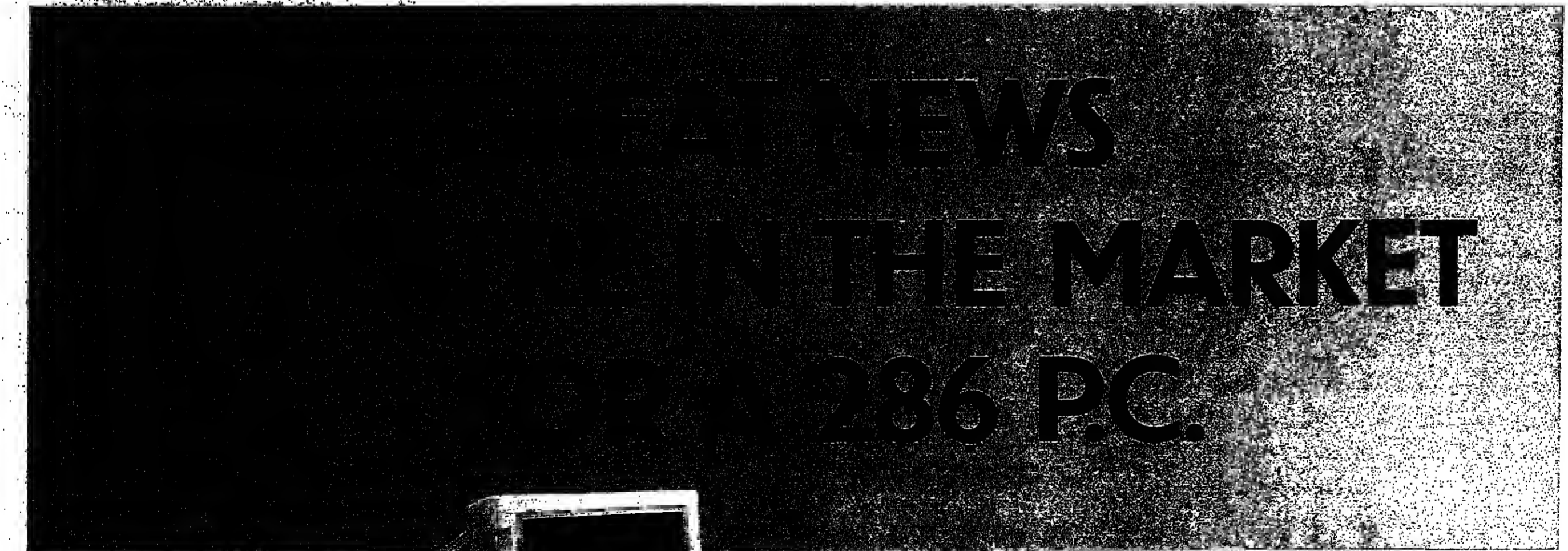
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Which is best? Stephen Beam, senior marketing manager of PC products at Unisys believes there is no clear cut winner. The choice depends on the variables. But he points out that there are at present more LAN-based application programs than there are for multi-user system - "combine this with the low cost of implementing a LAN, then one would tend to favour LANs as the route to take for multi-terminalisation," he says.

One major industry debate, however, has been settled conclusively in the past couple of years. There is no question that the graphics-style human interface pioneered by Xerox and given credibility by Apple with its Macintosh and Macintosh II is the way of the future. Microsoft's "Windows", IBM's "Presentation Manager" and Hewlett Packard's "New Wave" all derive their inspiration from Xerox's screen pictures and pull down menus. Now Apple is attempting to sue the others to protect its intellectual rights, but its success is by no means guaranteed.

ON OTHER PAGES
International section, pages 2-4.
Industry issues, pages 4-6.
Technical developments, pages 6-7.
Software issues; case studies, pages 8-10.

Personal Computers



Here's a revolutionary thought, but one that comes as no surprise from the 386 brand leader. Instead of a 286 pc, why not buy a 386 pc? Or to be precise, the new Compaq Deskpro 386. It's not the extravagance you might think, because it costs about the same as a slower 286 based pc. The reason? It's the first personal computer to be powered by Intel's innovative 80386SX microprocessor, which, at last, makes this kind of technology an affordable alternative to PCs based on a 286. Some would say its technology worth having at any price.



A 386 P.C.

For example it will run current software up to 60% faster than most 10MHz 286 pcs. It can offer the full benefits of both MS OS/2 and MS DOS allowing you to exploit new software developments as they become available. It will run 32 bit software - something no 286 based computer can do. And it's all wrapped up in a new slimline design. For a little more than the price of a top of the range 286, the price is pretty slimline too.

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PERSONAL COMPUTERS AND SOFTWARE 2

Powerful domestic demand and extraordinary export growth are fuelling this hugely profitable sector, says Louise Kehoe

Record revenues and profits for US makers

US PERSONAL computer-makers are riding the crest of a booming market. With domestic sales fuelled by demand for new, high-performance personal computers and extraordinary growth in

The US makers' sales of PCs are expected to exceed \$23bn this year, up 17 per cent on last year

export sales, the major US personal computer makers are charting record revenues and profits.

Sales of personal computers in the US are expected to top \$23bn this year, up 17 per cent on last year. The overall figures mask runaway growth in the high end of the personal computer market where sales are estimated to be running at an annual growth rate of 35 per cent, according to figures from Dataquest, the California market research group.

Behind the personal computer boom is the unrelenting progress of semiconductor technology which has yielded microprocessors capable of carrying minicomputer workloads

at desktop computer prices.

Creating new demand for personal computers are software applications in the burgeoning sectors of desktop publishing, desktop presentation and computer-aided design.

The personal computer is seen increasingly as the key element in a new corporate data processing system in which individuals can tap into corporate and remote data resources while maintaining control over their own desktop computer.

The now essential role of the personal computer in business is perhaps best illustrated by the phenomenal growth, this year, of sales of "laptop" or portable personal computers in the US.

Up 76 per cent over last year, sales are expected to reach close to 1m units by the end of the year.

Apple Computer, Compaq Computer, Dell Computer and Tandy are among the biggest winners in the US PC market this year. Each has increased its share of the lucrative business sector, while Apple and Tandy have also strengthened their hold on the education and home computer markets.

IBM, still the largest supplier of personal computers to US corporations, claims strong

sales for its 16-month old Personal System 2 products, with more than 2m units sold.

However, according to most US market researchers, IBM's share of the personal computer market continues to slip. Store-Board Inc., a Richardson, Texas market research firm, says for example that IBM's share of computer dealer revenues in the business PC market decreased by 13 per cent in the second quarter of 1988 compared to the same period last year.

The success or otherwise of IBM's PS/2 is of major significance to the entire personal computer industry. With the PS/2, IBM has launched a new computer architecture and

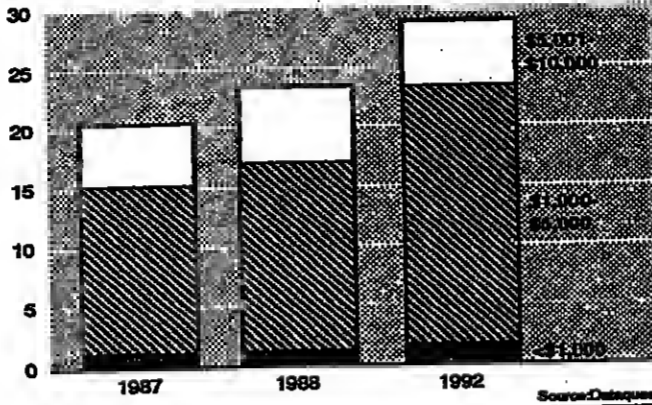
Growth of laptop portables is up 76 per cent over last year, with sales of 1m units expected this year

operating system into the personal computer market.

The acceptance of this new standard, and IBM's determination to prevent illegal copying of its new design, remain hotly debated issues within the US industry.

US personal computer market

Estimated revenue (Billion dollars)



To date, few "clones" of the PS/2 have reached the market although Tandy and Dell Computer have both announced PS/2-style products.

Ultimately, the success of PS/2 may be determined by software developers who have promised, but have yet to deliver, software applications that take full advantage of the PS/2's performance capabilities.

Currently, however, products based on the existing

industry standard and Dos operating system hold the advantage with thousands of readily available applications packages.

IBM is not alone in taking a firm stand on protecting its intellectual property rights in the personal computer market.

Apple Computer has recently created a major controversy in the US industry by filing law suits against Hewlett-Packard and Microsoft claiming copyright infringement of its pro-

prietary Macintosh software.

The suits centre on the Macintosh's unique "graphical user interface" - the screen displays that allow a Macintosh user to control the computer with a "mouse".

The outcome of the Apple litigation - which has drawn an aggressive counter-suit from Hewlett-Packard, is expected to have a major impact on the look and feel of personal computers in the future.

Major computer makers including IBM and Hewlett-Packard, Xerox, Sun and AT&T along with software developers like Microsoft, are convinced that graphical user interfaces are the way to go.

The major advantage is that they make it easier to learn how to use a computer by replacing arcane keyboard commands with simple menu choices.

If Apple wins its case, however, it may be difficult for other companies to create graphical user interfaces that look similar to the Macintosh screens. Alternatively, if Apple loses, Macintosh-like screens may proliferate.

The uncertainties surrounding operating systems and interface software standards appear to have done nothing to dull demand in the intensely com-

petitive personal computer market.

Nor, it seems, are customers overly sensitive to price. In recent months US personal

The outcome of the Apple law suits is expected to have a major impact on PCs in the future

computer prices have stabilised and in some cases risen as manufacturers pass on the cost of steep increases in memory chip prices.

The memory chip shortage has become a major concern to

all US computer makers, drawing many personal computer executives into the complex political debate over the US-Japan semiconductor trade.

Japan supplies an estimated 80 per cent of the world's memory chips.

According to the latest estimates from industry experts, the shortage may continue for as long as another 12 months - pushing prices still higher and causing problems for many US personal computer makers.

If the chip shortage worsens, it could put the brakes on the current US personal computer boom, another high growth year in 1989.

Japan

Market still well below its potential

JAPAN'S personal computer market has long been emasculated by a variety of problems. These include: incompatibility between the different manufacturers' equipment; lack of a tradition of keyboard use; complexity of the software required to handle Japanese script; and, in particular, the dominance of a single manufacturer, NEC Corporation, which holds 70 per cent of the 16-bit machine market.

Consequently the market continues to function well below its potential size, in terms both of hardware and software. But signs of change are slowly emerging.

Attempts to establish a unified IBM/MS-DOS standard in Japan, to be known as the AX (architecture extended), are gaining wide support.

IBM's OS/2 looks set to provide a standard OS for 32-bit PCs within the next few years, and Japan's increasing ties with international companies, particularly in the financial sector, have produced a new momentum towards compatibility with systems in use worldwide.

Probably the biggest success story of the past year has been "laptop" units in the office market. Users have shown such interest that manufacturers have been obliged to develop customised local area network adaptors.

Toshiba has been the chief winner. It claims to have sold ¥1.2bn-worth of IBM-compatible laptops in the fiscal year ending March 31 this year, in a market which it estimates totalled ¥20bn.

Toshiba forecasts ¥24bn of laptop sales this year, in a market worth ¥40bn yen, and also recently became the first Japanese company to offer a 32-bit laptop unit.

Industry analyst Steve Myers, of Jardine Fleming, notes: "For Toshiba to go from nowhere to 10 per cent of the entire PC market in just 18 months with a product incompatible with any other then on sale, is most remarkable."

The growing acceptance of laptops is likely to have a strong effect on the marketing strategies of leading companies, and appears to offer support to the basic marketing philosophy of NEC, which has promoted PCs as elements of upwardly-expandable personal information systems, rather than as terminals for large computer systems - the dominant approach of most other companies.

The future direction of the market is also closely tied to user-interest in 32-bit equipment. Demand is expected to grow rapidly, because these machines, equipped with IBM's recently introduced OS/2 operating system, offer a solution to the limited memory addressability and multi-tasking support of 16-bit machines working on MS/DOS.

This limitation is felt more keenly than in the West, because of the high volume of data that must be processed when handling Japanese script. IBM Japan has already managed to establish prominence in this arena by introducing the versatile SMART packaged software for its PS/55, the Japanese version of IBM's 32-bit PS/2.

The Japan Electronic Industry Association expects that annual unit sales of 32-bit machines in Japan will reach 400,000 by 1991, in a domestic market worth ¥1.072bn, while 16-bit machines will level off at current annual volume of 1.25m units a year.

A general expansion of the domestic PC market, which currently features lower software purchases per unit sale than the US market, and less than half the growth rate, remains the prime objective of market participants, and the

AX project is one of the most important related initiatives.

The AX project group is led by Microsoft Corporation and consists of more than 20 Japanese hardware and software companies, including Mitsubishi, Sharp and Sanyo.

Until now, individual Japanese personal computer manufacturers have produced customised versions of MS-DOS for their equipment, resulting in a high degree of equipment incompatibility in Japanese offices where, typically, machines of several different makers are installed.

NEC, meanwhile, has continued to benefit from its early entry into the market, which caused software developers to design their products specifically for its equipment - a pattern which has proved very hard for other companies to break.

AX, it is hoped, will enable software developers to invest in products for a unified IBM/MS-DOS environment. This could allow hardware makers to compete on a more even footing with NEC, and provide users with access to a broad range of IBM software.

Marketing AX products presents the main obstacle, as the NEC-oriented market structure of the mass retail shops will oblige participants to develop

The TRON project is further evidence of the urgency with which Japanese companies are seeking to end incompatibility

original sales networks.

One attempt has been made, by Seiko Epson, to open up a NEC-compatible market, but, unlike IBM, NEC does not follow an "open architecture" policy. When Seiko marketed an NEC PC-8600 clone, it was promptly sued by NEC, and other clone production plans have since been abandoned.

The prospect of a more open market for PCs in Japan has already attracted the attentions of manufacturers elsewhere in Asia.

Low-priced NIE electronics goods have been faring well in the Japan market in recent months, but companies such as Acer are expected to face difficulties in providing adequate sales and support structures and brand name recognition.

The Japanese manufacturers are attempting to counter the NIE threat by offering users a wider variety of hardware.

The "wild card" in the market is TRON (the real-time operating system nucleus), a home-grown operating system designed to provide standardisation in computer architecture, which is under development in a ¥10bn research project, led by Ken Sakamura, of Tokyo University, and supported by more than 40 Japanese companies.

The TRON project is further evidence of the urgency with which Japanese companies are searching for ways to break out of the impasse of equipment incompatibility, but this "open architecture" initiative could well be upstaged by IBM's sophisticated OS/2, which has already gained the backing of many Japanese companies, and promises to open up even wider software choices.

The danger remains, however, that in the Japanese market OS/2 could represent a replay of the MS-DOS experience, with major companies opting for customised versions of the new operating system, usable only with their equipment.

Roy Garner

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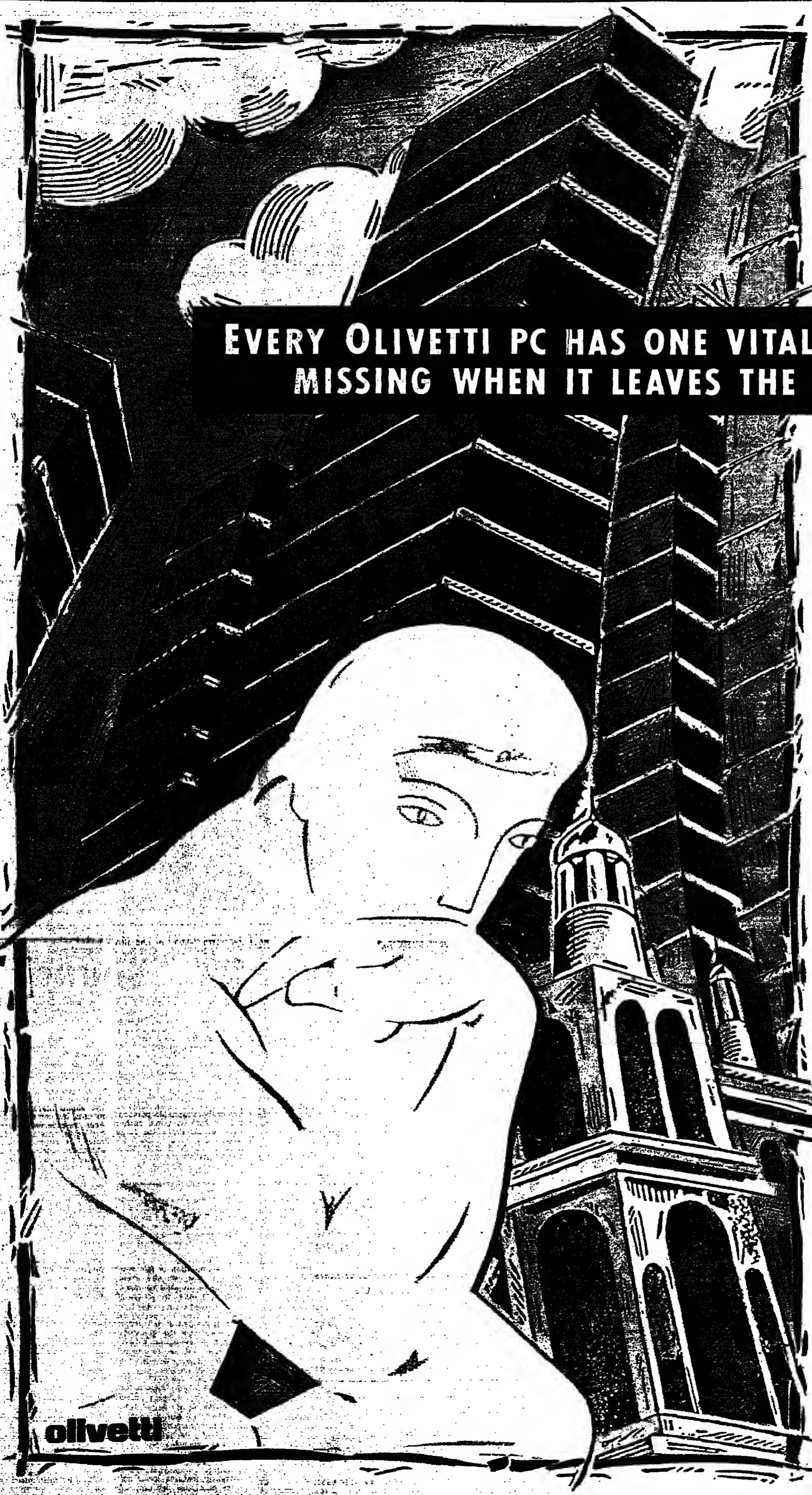
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PERSONAL COMPUTERS AND SOFTWARE 5

Evolution of networking and open standards
A very hot issue

MODERN NETWORKING technologies and the growing use of Unix, the multi-user, multi-tasking operating system, are beginning to make nonsense of conventional definitions of the "personal computer."

Within five years, Seymour Cray, Cray Research's founder and chief designer, expects to be able to build a supercomputer that is not much bigger than a pocket calculator. Built into a network, it would afford individual users access to enormous computing power.

one hand in which the personal computer is an intelligent workstation embedded in a network of similar and dissimilar systems; and on the other, freestanding, independent and typically portable systems for which there is no better generic term than personal computing.

Go-operative processing seems to hold the key to the future. To date, the conventional picture of a data processing system for a medium to large-sized company comprised a mainframe computer in the data processing centre, a mini-computer in the department or subsidiary and a personal computer, or workstation, on the desk.

other vendors have had to make special concessions to IBM's proprietary Systems Network Architecture or SNA. NCR, for example, has developed a technology it calls System Interconnect Architecture which brings OSI and SNA together. It also provides either

possibly based around IBM's Netview, its set of performance measurement and problem determination tools. The confusing nature of developments in this area, however, has been accentuated by IBM's launch of its new series of personal computers, the Personal System/2. These have a new operating system, OS/2, written by the US software house Microsoft, and OS/2 has its own networking software called LAN Manager.

developers would feel encouraged to write applications programs knowing they could be run on a wide range of hardware. X/Open's aims include not only the establishment of a common applications environment, but also a common user interface (X Windows) and a common networking standard (XTI or X/Open Transport Interface).

version of Unix based on IBM's proprietary AIX operating system. Essentially the job of X/Open and other organisations in the computing standards arena is to find a way to cut through the technological foliage and give computer users a clear view of what networking and networking standards involves.

Multi-user computing
Unix broadly accepted

MULTI-USER computers have long been considered rather specialised machines, found normally in large organisations and universities running complex applications on a fairly granular basis.

AIX as its basic operating system. Most industry observers see this move as potentially divisive, though there is hope that the microcomputer marketplace is in the very early stages of polarising towards two extremes: co-operative processing on the

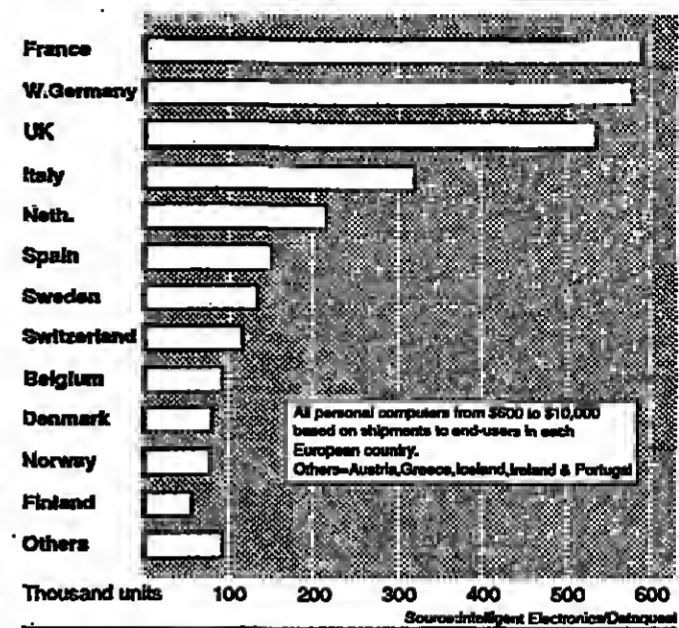
The picture is changing to encompass a mainframe (which could be a supercomputer) in the data centre linked through a company-wide network to workstations, printers, electronic filing systems and so on. In turn, each company-wide network would have connections to other company networks, creating a computing equivalent of the worldwide telephone system.

set of rules for the connection of any computer system to any other computer system - Open Systems Interconnection or OSI. Divided into seven sections of "layers", the OSI rules are close to completion. Furthermore, they are supported by all the major vendors including IBM, Digital Equipment, ICL, Unisys and NCR.

wide area or local area networking. Wide area networking involves all the techniques essential to enable computers to communicate over long distances - typically a complex and expensive business. Local area networking, the personal technology where personal computers are concerned, involves ways of moving information economically over short distances - typically within a building or suite of offices - at high speeds with high levels of accuracy.

Leaders in LAN technology include Banyan, Novell, 3 Com and IBM, all of the US. A recent survey by the US research consultancy, Datapro, suggests that new standards will evolve for network management in the near future.

European PC sales - 1987



The Unix operating system, developed by AT&T's Bell Laboratories many years ago, has been popular in the multi-user systems market because of its ability to run multiple tasks for multiple users.

From the users' point of view this would be sensible, for the open systems market looks set to be filled with the types of products the users want. This is understandable when it is remembered that the users now seek open systems, and specifying X/Open compliant, Unix-oriented products, include the US military.

That range of products should expand further now that X/Open has also introduced its Branded Product scheme. Here, also a software or hardware supplier has established that their products meet the standards set in the organisation's Portability Guide. The manufacturers then brand their products as X/Open compliant.

This is expected to bring a wide range of new and existing specialist products out on to the open market. This trend towards open systems applies as much to the PC-based multi-user systems market as any other, perhaps more so. There are a large number of PC users that want to run multi-user and multi-tasking systems.

It is claimed to be a good solution for any application where a real-time, embedded system is required, such as in real systems, but has the disadvantage of not working with MS-DOS applications at all. Other multi-user operating systems can work with DOS applications. A leading European computer manufacturer, in its latest release, has an Intel-based multi-user system and can run multiple DOS applications directly, in a multi-tasking, multi-user environment.

The multi-user PC system is a good example of a vertical market product. It is sold primarily to business managers in a multi-user environment, though networking is also available. As such it is a complete system, in that the operating system is integrated into the hardware.

There are no problems here, of course, for that is no single Unix available. AT&T hindered the system's early development by charging a huge licence fee to potential customers. The computer manufacturers went off, therefore, and created a large number of similar, but generally incompatible Unix-like operating systems of their own.

For a long time this has been a rather specialist requirement, but as the power and performance of the personal computer have expanded to match that of the traditional minicomputer, so the use of Unix as an operating system has spread.

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Here, the users are starting to drive the computer, printer and multi-user micro are finding themselves in a leading role. The X/Open organisation, the group of leading computer manufacturers which recently gained IBM as a member, is setting out to bring together the necessary hardware and software standards which will make the users' desire for open systems a reality.

It settled on Unix as its target operating system from the outset, primarily because that was the only available that offered even a modicum of machine independence. It has subsequently brought together a wide range of standards that define the type of portability for applications that users want with open systems.

It is claimed to be a good solution for any application where a real-time, embedded system is required, such as in real systems, but has the disadvantage of not working with MS-DOS applications at all. Other multi-user operating systems can work with DOS applications. A leading European computer manufacturer, in its latest release, has an Intel-based multi-user system and can run multiple DOS applications directly, in a multi-tasking, multi-user environment.

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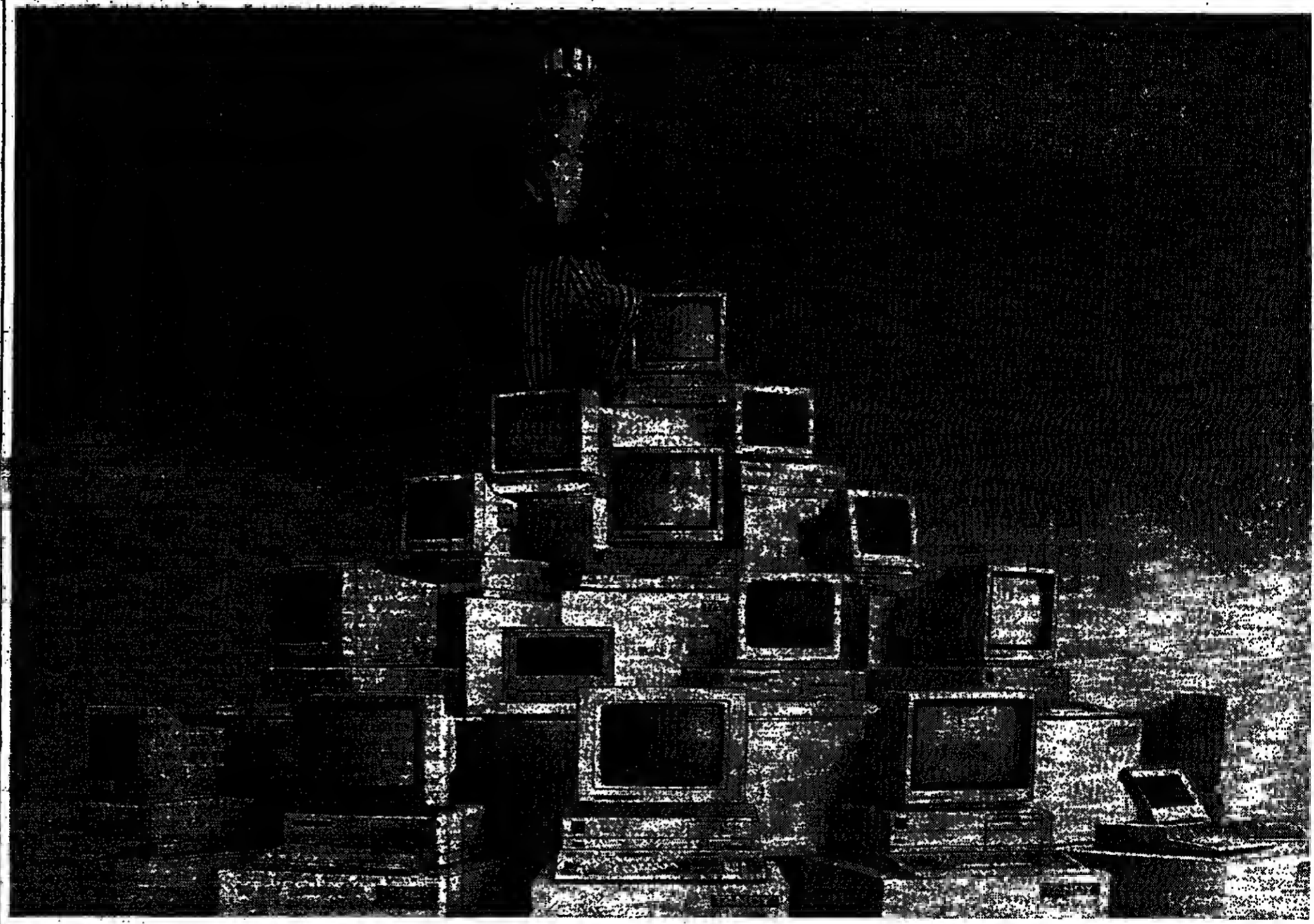
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PERSONAL COMPUTERS AND SOFTWARE 7

COMPUTER PRINTERS

New levy puts large market in a state of flux

WHILE THE basic purpose of a printer is to put ink on paper, users' actual requirements vary remarkably. Even where the highest quality is not necessary, or cannot be afforded, the appearance of the finished document can influence the reader.

Not only is printer technology evolving at a rapid pace, but the market is large. According to International Data Corporation, it was worth over \$3bn in 1987.

Today it is in a state of flux, because of the EEC anti-dumping levy of 33.4 per cent (on top of the 4.9% import duty) on dot matrix printers (DMPs) from Japan which came into force at

the beginning of this month. Epson views this as protectionism, where the only sufferer will be the consumer. The company points out that European prices are already significantly higher than those in the rest of the world, with, for example, a printer that costs \$500 in the UK costing just \$500 in the US. It is well qualified to appreciate the situation, because it is the European market leader in the middle sector for DMPs. While EEC manufacturers account for only 17 per cent of the market, it has 45% with other Japanese manufacturers around 38%.

It is too soon to see what the effects of the levy will be. The

decreasing price differential with respect to other printers may accelerate the move to laser printers; alternatively, prices of all printers might drift upwards.

The daisy-wheel, once the staple office high-quality printer because of its crisp image, has given way to the laser, because of speed and noise level, as well as its being constrained to printing only the characters on the daisy-wheel. DMPs, which were widely used to provide draft quality at high speed, can now also provide near letter quality print.

Despite the improvement in dot matrix technology, many users would switch to laser printers were it not for high initial and running costs, except in circumstances that specifically require an impact printer - for example, where multi-part forms are being printed.

Competition in the DMP market has led to better quality from print heads incorporating up to 24 pins, higher speed (both draft and letter-quality), wider ranges of type fonts and typestyles, graphics, and improved paper handling. The latest printers incorporate a "paper-parking" facility, which obviates the need to remove continuous stationery from the printer in order to insert a cut sheet or an envelope.

For versatility, the DMP is unequalled, at prices from \$200 upwards. In essence, you pay your money and take your pick to obtain the machine that best meets your requirements.

For example, the FX-850/1050 printers, which had recommended prices starting at \$459 (prior to levy), are the latest versions of Epson's long-established line of 9-pin DMPs. The two models are respectively 80 and 196 columns wide, and both have print speeds of 264 cps for draft and 54cps NLQ (near letter quality). A selection of typestyles is built into the printers and can be called up as required in normal or italic type. Text can be enlarged to double-width and double-height, to create added impact. As Epson printers tend to be de facto standards, most, if not all, of these features will be easily accessible when used in conjunction with modern software packages.

One of the many printers on the market that competes with this and other Epson printers is Star's LC24-10, a 24-pin

machine designed for professional computer users who require a maximum carriage width of 10 inches. At \$379 (prior to levy), it offers speeds of 170cps draft and 370cps "for true, professional letter quality output". As well as eight built-in fonts, other fonts can be provided by means of plug-in cards.

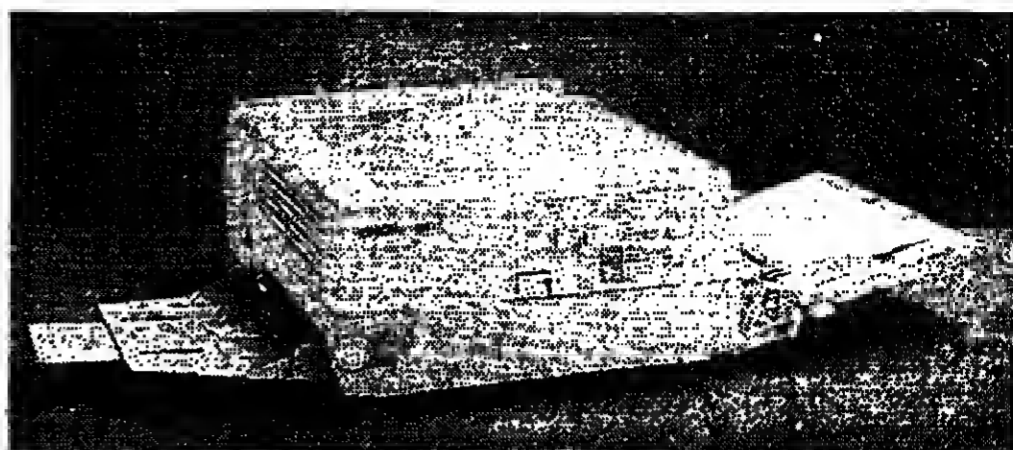
While, for the average user, it is a matter of comparing features, special applications require special printers. Gianluigi Bertino, Northern Europe Sales Director of Honeywell

Bull (Itaba), a company that specialises in high reliability printers for continuous office use, points out that "you get what you pay for. Jobs with long heavy runs, like the continuous printing of delivery notes, need engineering that will stand up to a pounding. They must not only be reliable to meet the needs of the job, they must also be low-noise to meet the needs of staff."

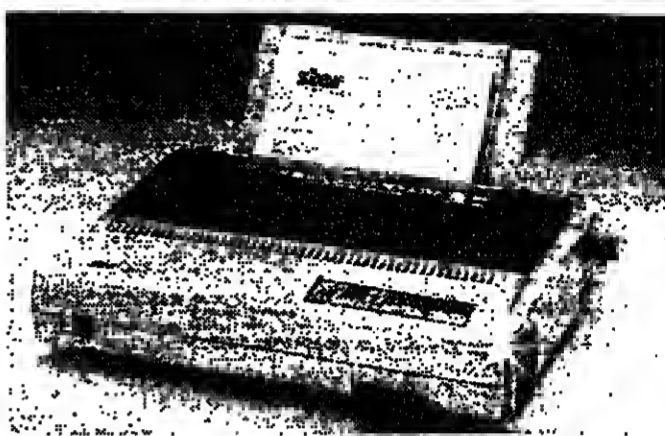
West German company Philips Kommunikations Industrie appears to have taken versatility to the extreme with its GP310 DMP. Fourteen are available in the machine, each printable in double height and/or double width. It employs a multi-coloured ribbon, allowing printing in standard black plus three basic colours (cyan, magenta and yellow). Under software control, the colours can be combined to produce a variety of mixed colours (near full-colour printing). It will also accept a black ribbon when colour printing is not required.

The higher resolution (300 dots per inch), low-noise graphics capability, together with high throughput, makes the laser printer the ideal choice for the busy office, as long as multi-part forms, colour, or large paper sizes are not required. Its cost, complexity, and the use of consumable toner pushes the cost per page above that of DMPs. Nevertheless, where a steady stream of work is required, carried out almost silently at a rate of five to eight pages a minute, it is unequalled.

However, the Hewlett-Packard DeskJet is a taste of what is to come. At less than \$800 - half the price of a laser printer - it provides quality comparable with that of a laser printer.



■ Epson's laser printer (above), model GC3500. ■ Right, Star's LC24-10 professional quality printer, one of Epson's many competitors. Dot matrix printers, once widely used to provide draft quality print-outs at high speed, can now also provide letter-quality print.



It is an exceedingly low-noise machine which will, according to H-P, print on virtually any reasonable grade of paper. It has a rated throughput of around 50 pages a day, and the company describes it as a personal printer.

While this is well below the output demanded of a busy office, there are many users who need this high quality and who have only a relatively low output. Thus, it could be a viable alternative to the laser. Unfortunately it appears that, for a while anyway, it will be available with a good range of fonts but not with the full support to enable it to meet full DTP requirements. Maybe it is so good that H-P is afraid that

It was launched six months ago for engineering and CAD/CAM applications, and is now being directed at the growing desktop presentation market. While it is beyond the reach - and needs - of most users, it may be the harbinger of products that will offer comparable performance at lower prices.

Adrian Morant

STORAGE TECHNOLOGY

Era of the laser disk

PERSONAL computers are no longer isolated islands of computing. In many cases they are being used as powerful personal workstations attached to the company mainframe.

But just as frequently, particularly in the smaller organisations that cannot afford mainframe computers, they are being used to drive multi-user systems and/or within local area networks.

The latest PC software applications also demand considerably more storage space than their predecessors; a picture may be worth a thousand words but it takes up considerably more disk space.

While a large word processing text file might require, say, 50 kbytes of disk, the same text laid out within a desktop publishing file might require 500 kbytes.

There is also a growing tendency and requirement to use the computer system as a document filing cabinet, especially in connection with text retrieval software. For whatever reason, the storage capacity of the original PC/XT (10 Mbytes) is woefully inadequate.

The demand for increased storage capacity at little or no increased cost has done two things: it has created a "data" and "data" market in the capacity of traditional magnetic disk storage; and it has spurred the development of laser disk technology.

It has also created a new market for replacement hard disks, where users can buy higher-capacity Winchester and install them into existing PCs.

This is a useful but dangerous exercise. The danger is in buying the cheapest replacement available - and cost is almost the last thing that should be considered. Corporate data is corporate lifeblood and should not be entrusted to an inexpensive product from the local high street with a photocopied sheet of instructions and no backup.

A spokesman for Ideal Hardware, one of the country's major hard disk distributors, says: "I would always recommend that users get their supplier to undertake the upgrade - but if they insist on doing it themselves, then Priam is probably the only supplier that produces suitable products with satisfactory back-up."

While such products give an upgrade route for existing users, they do not in themselves indicate the way disk technology is evolving.

Floppy disks are showing the least development. This is because every PC must have a drive that is suitable for program distribution - which means that they must all be as compatible as possible.

The current situation is probably as varied as it dare become: PCs in general use 5.25in disks with 360 kbytes capacity; ATs use 5.25in disks with 1.2 Mbytes capacity; and PS/2s use 3.5in disks. The operating system may be the same, but the disks are not generally interchangeable.

Suppliers are already being forced to provide software on both 5.25in and 3.5in, and it is becoming a significant cost factor. Any further fragmentation would be intolerable.

So, although floppy technology is actually able to offer disk capacities of 5 Mbytes or more, we are unlikely ever to see this reach the market.

Hard disks (often called Winchester because they are thought to have been developed by IBM at its Winchester laboratory in the UK) are a different matter. They are used solely for data and program storage, not for program distribution.

Because of this, it is perfectly possible for every single PC to have a different size and capacity hard disk.

Options include card-based systems (that simply plug into the internal expansion slots within the PC) already able to provide up to an additional 100 Mbytes; replacement disks; or additional external hard disks. The latter two provide the

greater capacity currently available; indeed, Maxtor's Surf provides a hard disk with a storage capacity of 800 Mbytes. To put that into context, it is the equivalent of 800,000,000 characters, or nearly 3,000 novels of 50,000 words.

Strange as it may seem to the stand-alone PC user struggling to cope with his or her 10 Mbyte hard disk, 800 Mbytes is still not enough. When an engineering department wants to store its library of drawings on-line; when a document department or typing pool has 20 or more users all storing all of their documents on one single storage device, even 800 Mbytes is soon consumed.

Put simply, magnetic media is unlikely to satisfy the projected demands of even PCs - never mind the requirements of local area network file servers, or the 100+ multi-user systems driven by Motorola 68030 and Intel 386 and 486 microprocessors.

Because of this, there is a great stampede by all the major disk producers to develop the first - and therefore the likely de facto standard - laser disk.

The capacity of laser technology is enormous: it is measured in tens or hundreds of gigabytes (1,000 megabytes). But there are problems. The first is the permanence of the data - most laser writing techniques permanently alter the surface of the disk itself.

Several different laser technologies exist, but the difficulty is in finding a technology suitable for rewriting.

Many magazines talk about the advent of "erasable" optical disks. This is a misnomer. There is little problem in erasing the data on an optical disk; the problem, and the requirement, is to rewrite new data over the old.

For this reason, the coming technology should be called "rewritable" rather than "erasable". Future rewritable optical disks probably will be based on magneto-optic technology - that is, like current magnetic disks the surface will be magnetised but the magnetising implement will be light.

Today, despite several announcements about the possibilities of erasable optical disks, we still have write-only disks. These are generally known as Worms (Write Once, Read Many). They are ideal for the storage of on-line large scale non-changing databases - bibliographic text databases, for example.

But they are also useful wherever the application demands a security audit trail. Since the disk space cannot be re-used, any alterations to the stored data are recorded elsewhere on the disk. This means that there is a permanent record of everything that happens to any file.

Rewritable disks using magneto-optic technology are already possible. They will inevitably begin to make inroads into the existing Worm market when they are finally produced.

But the main problem with rewritable optical disks is one of speed. At the moment, the technology can take up to five disk revolutions to perform a single rewrite. This creates a potential bottleneck.

The microcomputer can now handle dozens of users, and the laser disk can hold billions of characters; but the whole process is slowed down to the speed of the disk access technology. It is like a string of Jaguars racing each other to the next traffic lights.

Manufacturers are now working on two developments: methods to reduce the number of revolutions required to a maximum of two, and the ability for disks to be nominated as either Worm or rewritable.

Both these developments are likely to be available by the spring of 1989. But their acceptance will depend on one major impediment: the extent to which the user is willing to abandon old records in favour of electronic records.

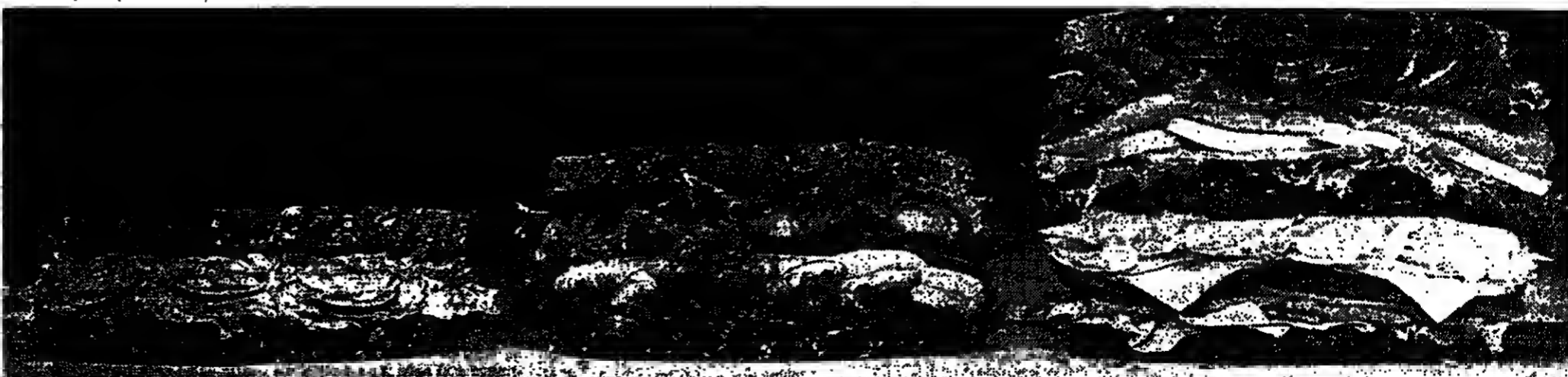
Kevin Townsend

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Creating value

PERSONAL COMPUTERS AND SOFTWARE 10

Solutions sought in man-machine interface problems

More help for non-technical users

ANYONE WHO has tried to program a video recorder knows that the controls on the tools we use, often leave much to be desired. The video recorder, in common with many other electronic devices, provides the power to plan and control the future. But to be useful, this power must be presented in a simple and straightforward manner.

The problem of control in computer systems is aggravated by the nature of computers themselves. They are designed to be general-purpose machines, which may be adapted to many different jobs. They may be used for wordprocessing. They may be used for financial planning. Or they may be used for draughting technical drawings in a computer-aided design system. They could conceivably be used to do all of these jobs simultaneously.

Unfortunately, each of these tasks presents different problems of control and the tricks used successfully in one area do not necessarily work as well in another. In wordprocessing, for example, most of the 'control' must be exercised through the keyboard. But when it comes to editing the document, the 'mouse pointer' makes the task much easier.

Software for future PC-users will be easier to learn and to apply.

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But since the start of the 1980s and the extraordinary growth of personal computer use, attention has shifted to the Man-Machine Interface (MMI) problem and it is one which has received a great deal of attention in the last year. In the early days of computers, the people who used them were highly-trained professionals who could afford to take time to learn the intricate methods of controlling systems. And they were paid high salaries to do it.

A major breakthrough in MMI design came in the late 1970s with Xerox's Star system, the result of a lengthy research project at Xerox's Palo Alto Research Center (PARC) in California. This system brought together a number of ideas, including the 'mouse' pointer pioneered by Douglas Engelbart at the Stanford Research Institute some years earlier.

A challenge for IBM

AN INTERNATIONAL group of computer manufacturers, including representatives from the US, Italy and Japan, has within the past few days announced a challenge to IBM's Micro Channel Architecture (MCA).

Mr Ben Rosen, chairman of Compaq Computer, which has been a stout defender of the 'industry standard architecture' which characterised IBM-style personal computers until the introduction of the Personal System/2 family, said there was a clear case for developing a design which allowed compatibility between older chip designs and new, while providing speed equivalent to, or greater than, MCA.

workers and the Macintosh quickly attracted a cult following. By 1987, this cult had grown to an influential size and IBM PC-users began to sit up and take notice. This change of attitude from PC-users and developers prompted IBM to promise a comparable 'mouse-plus-windows' interface for the PS/2 its new range of personal computers, launched in April 1987.

IBM went even further and included the interface, known as Presentation Manager, in Systems Applications Architecture, its grand scheme for standardising its three main ranges of computers. Software developers Microsoft and Digital Research both attempted to bring the Xerox Star interface to the PC and had some success. Microsoft Windows is the model for IBM's Presentation Manager and Digital Research's Gem has been adopted by, among others, Xerox for its desktop publishing package Ventura.

course of litigation to prevent other manufacturers from copying it. It threatened Digital Research with legal action in 1985 and forced it to change Gem. And earlier this year Apple brought a lawsuit against Microsoft and Hewlett Packard which claimed that their 'mouse-plus-windows' interface copied the 'look-and-feel' of the Macintosh.

The issue is how to bring computer power to the user, more simply.

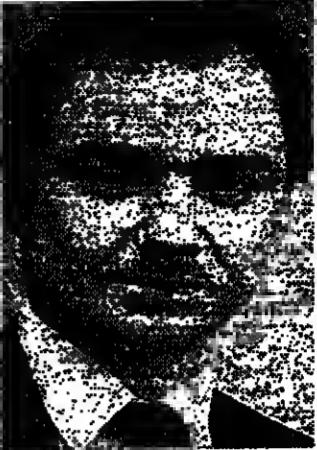
with Xerox, which gave Apple no grounds for a claim. The argument is unlikely to effect IBM's Presentation Manager, however.

Philip Manchester

Case study: PC business applications

Ways to cut down on tedious tasks

COLONIAL Mutual Life, the Australian life assurance group which celebrated its UK centenary two years ago, ranges in the scope of its business from life assurance, pensions and investment management to the more recently added unit-linked schemes. It links its 60 sales offices and 800 sales staff around the country to head office in the City on a network of ICL DRS personal workstations.



Mr Steven Myers: "The benefits of the network are clear."

The network is driven by two mainframes, ICL Series 39 Level 90s, located at the Ludgate Hill head office, which were installed just over a year ago as a result of a detailed appraisal of the company's technology.

Mr Steve Myers, the group's information services manager, says: "We installed the DRS PWS's about six months ago. We have now completed the first part of our PC network, which is to have one in each branch office, and we will be expanding that to include extra terminals over the next year."

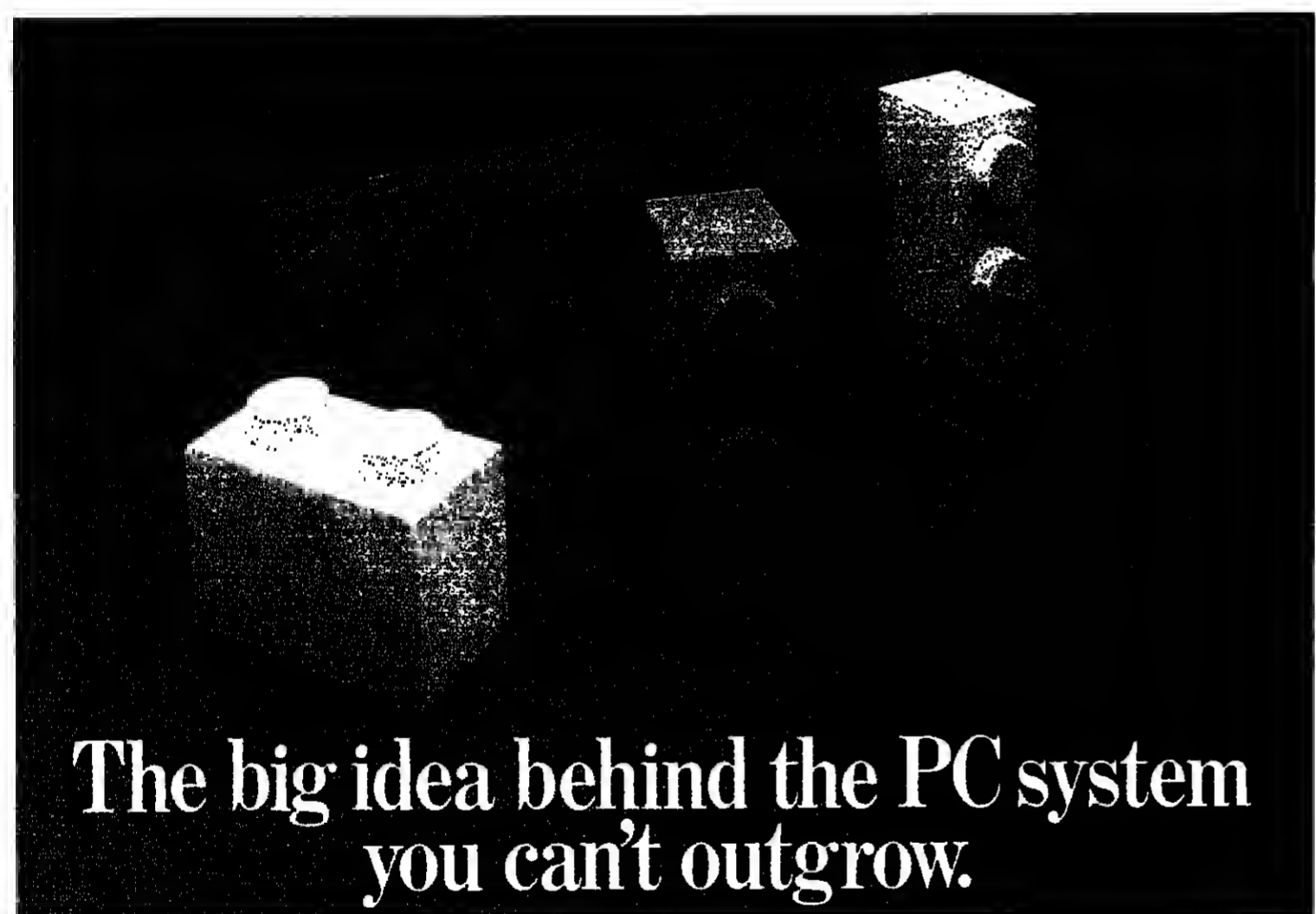
Two weeks to perform the highly-tedious task of punching in, checking and repunching if necessary, all the rates for policies. This now takes between one and two hours, freeing staff to turn to new areas of business.

Staff in the company's actuarial department in the City of London used to need two weeks to perform the highly-tedious tasks of checking and punching in rates on policies. Now the job takes between two and three hours.

Since the system is relatively new, it is hard to gauge the reactions from staff. "Obviously we have those who are computer literate and take to the PCs quickly, and those who are not," Mr Myers says. However, he points out that since the benefits of the PCs are clear to all, there have been no great problems introducing them.

Next year, Colonial Mutual expects to develop the network with multi-terminal branches, when the new ICL PCT terminal (a slightly less intelligent version of the DRS) will be added to existing workstations, and the completion of the Sales Information System.

Elizabeth Sowton



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WYSE
We make it better, or we just don't make it.

PERSONAL PRODUCTIVITY

Integrated packages adapted to change

AFTER THE initial surge in the personal computer software market in 1982/83, represented by the rapid rise of companies such as Lotus, Ashton-Tate and Micropro, the industry looked around for an escape.

Marketing sense suggested that a combination of Lotus's spreadsheet, Ashton-Tate's database and Micropro's Wordstar would provide a suitable candidate. Thus, the so-called 'integrated' package was born.

Integrated packages were seen as the last word in personal computer software and a leap forward in personal productivity. But they failed to repeat the success of their predecessors and, although they have managed to carve a market for themselves, integrated packages have not come up to their original expectations.

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Framework is third in the list of Ashton-Tate's best-selling products, worldwide, behind dBase III and Multimate, a wordprocessor.

Spreadsheet could be transferred to the wordprocessor for to be formatted and printed. Database tables could be pushed into spreadsheet templates. And spreadsheets and databases could be fed into a chart generator so data could be viewed graphically.

Framework and Symphony also included 'desktop' features like a diary and a notepad and mechanisms to build complex applications in their own programming languages.

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Some of the techniques for 'hypertext', a method of organising large amounts of data suggested by Vannevar Bush, President Roosevelt's science advisor, as long ago as 1945.

Hypertext allows items of data to be 'associated' with each other according to personal preference, rather than having a rigid structure imposed on them by the database designer.

Although Hypercard appears at first sight to be a special database program, it includes a powerful programming language which can be used to build personal applications quickly and easily.

Hypercard also has a data exchange mechanism which allow it to use files from other systems - "it is really an enabling technology for a great number of applications", explains Kevin Hawkins, managing director of Apple software distributor Principial. "And with the new features which Apple will add to it, it will become even more powerful."

Philip Manchester